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ORIGINAL ARTICLES.

THE DISEASES OF THE SKIN, OBSERVED IN A GENERAL PRACTICE OF TWENTY-FIVE YEARS, AND THEIR TREATMENT.[1]

BY CHARLES E. LOCKWOOD, M.D.,
OF NEW YORK.

ECZEMA is by far the most common of all diseases of the skin encountered in this country, and the statistics of the American Dermatological Association for five years ending in 1884, according to Van Harlingen, showed that out of 58,617 cases of skin disease occurring in all parts of the United States and Canada, 18,525, or nearly thirty-two per cent., were cases of eczema.

Eczema may be acute, subacute, or chronic, according to the rapidity of its progress and accompanying constitutional disturbance. I have met with acute eczema, accompanied with fever and constitutional disturbance, only once or twice.

The following case of infantile eczema was observed by me in March, 1886:

M., age three months, nourished on the breast by a wet-nurse, developed a general subacute eczema of the face, body, arms, and legs, probably due to indigestion. The following treatment was employed March 10, 1886: General baths were interdicted; skin was sponged with bay rum one part, water four parts; no flannel underwear allowed next to the skin. To the eruption an application of ol. rusci ʒ j, cold cream ℥ jss, was made twice a day with tip of finger, and on raw places, after applying the ointment, a solution of flexible collodion ℥ j in sulphuric ether ℥ ss was applied. Internally, a pinch of bicarbonate of soda was given three times a day, and every five days a powder of one grain of calomel and one grain of sodæ bicarb. March 20th, condition of face and body was much improved. I ordered a half-teaspoonful of lime-water, diluted with water, three times a day, and locally, the following powder to be dusted on the eruption, which was not so red or scaly:

℞ Pulv. Zinc Oxid. . . . . ℥ ss
Pulv. Amyli . . . . . ʒ j
Pulv. Camphor . . . . . ʒ ss

For itching paint on the skin:

℞ Tr. Camphor } aa . . . ℥ j
Tr. Benzoin Co. }

March 23d, face and head were nearly clear of the eruption, although some remained on the arms and legs. Child nursed regularly every four hours. The same treatment was continued, and the skin was sponged with Listerine and water, and a mixture of rhubarb and soda given two or three times a day.

April 22, 1886, the eruption had entirely disappeared.

This case illustrates well the marked benefit of soothing and non-irritating remedies when locally applied to the tender and sensitive skin of an infant.

In eczema of the hands and fingers, I have found rubber finger-covers and gloves useful as a protective applied over proper local dressings. The two following cases will illustrate this class:

T. C., laborer, age thirty-four years, consulted me in March, 1893, suffering from eczema of the back of the right hand, which extended from the knuckles to the wrist and over the back of the hand from one side to the other. The whole surface was red and swollen and raw-looking, and gave exit to a most offensive discharge. The patient was anemic in appearance and suffering from constipation. His mother had been treated by me for eczema of the leg, some years before. Considering this to be a case of chronic eczema, I prescribed Fowler's solution of arsenic, beginning with two-drop doses three times a day after meals; pil. Blaud, five grains after each meal; one-fortieth of a grain of podophyllin three times a day, and, as a local application, ungt. hydrarg. ammoniat. ʒ j, tincture benzoin co. five minims. The dose of Fowler's solution was gradually increased until, on April 11, 1893, he was taking seven drops, and the raw surface on the back of the hand was almost entirely healed over and covered with healthy skin. I next prescribed pil. podophyllum (Squibb), one every third night, until five should be taken, and as a local stimulant, ol. cadini ʒ j, ungt. hydrarg. ammoniat ʒ vij.

June 2, 1893, the patient had increased the dose of Fowler's solution to nine drops after meals. He suffered from looseness of the bowels whenever the dose of arsenic was increased, but this passed away in twenty-four hours when the dose was decreased. Continuing the tonic treatment, I prescribed Flint's tablets, saline and ferric tonic, two after meals.

June 13, 1893, he was suffering from diarrhea, and he had decreased the dose of arsenic from ten drops to six drops three times a day. The hand was almost entirely well, there being only a little redness on the wrist. I ordered the arsenic stopped and prescribed succus alterans, one teaspoonful three times a day. I did not see the

[1] Read at the twelfth annual meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn on May 26, 1896.

patient again, but one year afterward his mother called on me and informed me that he recovered completely and had had no further recurrence of the trouble.

This case illustrates the efficacy of arsenic in certain cases of eczema, combined with iron—liver stimulation—and that empirical class of remedies called alteratives, among which I include succus alterans, a combination of stillingia, sarsaparilla, phytolacca, lappa, and xanthoxylum.

H. R., female, aged forty-seven, born in Ireland, single, occupation a cook, consulted me in October, 1889, for eczema of three fingers of the right hand, with which she had suffered for four months. Her family history was good, and she had always enjoyed good health. I was unable to obtain any evidence of a rheumatic or strumous diathesis, or liver, stomach, kidney, or uterine trouble. She was somewhat anemic, and I prescribed as a general tonic:

℞ Tr. Ferri Muriat . . . ℥ ij
Liq. Potass. Arsenit . . min. xlviii
Aquæ . . . . . ℥ iij
One teaspoonful in one-third tumbler of water after meals.

and as a local application:

℞ Hydrarg. Chlorid Metis . . . grs. x
Ungt. Tinc. Oxid. } aa . . . ℥ ss
Vaselin }
Apply to the fingers on soft linen and cover with a a rubber glove or rubber finger-covers.

October 31, 1889, the fingers were better; dry, red, and scaly. The amount of calomel in the ointment was increased to twenty grains, and the dose of Fowler's solution of arsenict of our drops, after which the affection was cured.

Eczema aurium, or eczema of the external auditory canal, I have met with only twice; and as this form of the disease sometimes presents some difficulty in the way of diagnosis and treatment, I shall present the history of one case. In both of these cases there was a family history of gout and rheumatism, and one suffered from gouty inflammation of the feet and toes.

W. R., white, born in New York, age thirty-two, weight 150 pounds, occupation mechanical engineer, consulted me in November, 1895, and gave the following history: Three or four years ago, while sitting in the car near an open window, he noticed an itching and ringing in the right ear. He visited an ear dispensary and was told he had inflammation of the ear, and was given powders. He then consulted a physician, who told him to wash the ear with warm water. When I saw him, the external auditory meati and canals of both ears were almost occluded by swollen tissues and coated with dry and moist scales, and he complained of ringing in the ears and a very disagreeable feeling in the external auditory canals. In order to clean out the canals so as to be able to make a positive diagnosis, I first dropped in both ears "Ozonol," a solution of ozone in oil, to soften and loosen the scales, and then, with a dropper, "Pyrozone," a three per cent. solution of dioxid of hydrogen, after which I syringed the ears with warm water, to which were added bicarbonate of soda and glycerin. After cleansing the ears as thoroughly as possible, I was still unable to see the drum, and gave him the following prescription to drop in the ears:

℞ Acid Boric . . . . . grs. x
Cocain Muriat . . . . . grs. iv
Alcohol }
Glycerin } aa . . . . ℥ jss
Rose-water }
Sig.—Drop five drops in the ears twice daily.

November 13, 1895, patient's condition was so much improved that I was able to see both drums. I painted over the surface affected a solution of nitrate of silver, two grains to the ounce, and closed the canals with a small piece of cotton, loosely inserted, as a matter of protection from the air. I prescribed ol. rusci, eight minims, to one ounce of vaselin, to be painted in the ears daily after syringing them with a solution of boric acid, two teaspoonfuls to a tumbler of warm water. In view of the rheumatic history in the family, I ordered five grains of salicylate of soda to be taken three times a day, two hours after meals, Poland water, as a drink, to be used freely, and the taking of red meats only once during the day, with the result that recovery was thereafter uninterrupted.

I have met with one case of eczema capitis, the history of which I gave in a paper read before the New York State Medical Society in February, 1895. In this instance the eruption had existed, off and on, for four years, and the patient gave a history of having suffered from rheumatism during the same period, the rheumatism disappearing after the breaking out of the eruption. The treatment, which consisted in the administration of salicylate of soda in ten-grain doses three times a day, with half a teaspoonful of bicarbonate of soda in carbonic acid water, twice a day, and the application of black wash and a stimulating ointment locally, and subsequently the administration of Fowler's Solution of arsenic in two-drop doses with wine of iron, and one-fortieth of a grain of podophyllin three times a day for four or five days at a time, resulted in a complete cure.

In the following case of chronic eczema of the forearms and legs, the patient came under my care November 12, 1890, and was discharged cured May 12, 1891:

Miss K., age thirty-one, had always enjoyed good health, with the exception that for three years she had had an eczematous eruption on the palmar aspect of the right forearm. It disap-

peared one summer and came back in the fall. A general examination showed an anemic murmur over the large vessels in the neck, and she complained of having suffered recently from neuralgia of the face and flatulence after eating. She was ordered to wash the arm with tar soap nightly and to take Fowler's Solution of arsenic in two-drop doses after meals; afterward the Fowler's Solution was given up to eight-drop doses after meals, with the result that she complained of sickness at the stomach, and the eruption was no better. The eruption was then painted with tincture of iodin to remove the epidermis, and the following ointment applied locally: Ungt. hydrarg. ammoniat. 3 j, ungt. zinc oxid ʒ j. Iron in the form of Blaud's pills, five grains each, was prescribed three times a day after meals, to be gradually increased to three pills after meals. After two months' treatment the eruption was hardly to be seen. Adding a local application of green soap and stimulating ointments for a month, on April 13, 1891, eczematous spots appeared on the right and left forearms and right leg, and the anemic murmur in the neck had disappeared. I prescribed succus alterans, one teaspoonful after meals, and directed her to wash the eruption every night with ichthyol soap and apply an ointment of ammoniate of mercury. April 23, 1891, the eruption was better, and the dose of succus alterans was increased to two teaspoonfuls after meals. The local treatment as before. May 12, 1891, the eruption was entirely gone. The patient complained of pain during the evening after supper, at times, and says she wakes up in the night with pain and vomiting, for which I prescribed a powder of bismuth subnitrate, sodæ bicarb., pepsin, each 3 ij, pulv. zingiber 3 j, a half teaspoonful in water after meals, with good effect.

This case illustrates the importance of our appreciation of gastric disorder and anemia as factors in the production of eczema, and the inefficacy of arsenic in such cases, except in very small doses combined with iron.

In varicose eczema I have always secured good results by combining careful attention to the local support of the dilated veins, with proper general and local treatment. Eczema of the face, with abrasion of the mucous membrane of the mouth, I have met with in a patient who gave a history of syphilis contracted twenty-five years before, and a gouty family diathesis, which yielded to the local application of an ointment of calomel, 3 j to the ounce, and the internal administration of the mixed treatment, combined with remedies suited to the gouty diathesis.

Eczema in the neighborhood of the lips, with cracks and fissures of the skin and mucous membrane at the corners of the mouth, I have met with once in a strumous subject. These cases are peculiarly rebellious to treatment, especially in cold weather. The treatment adopted was the internal administration of cod-liver oil and the syrup of the iodid of iron, and the local application of the following ointment: ol. rusci, eight minims; vaselin, one ounce, resulting in recovery. In another case, if I should find the fissures at the corners of the mouth slow in healing, I should try the application of

℞	Flexible Collodion	ʒ j
	Sulphuric Ether	ʒ ss

painted over the fissures after the application of the ointment.

As soothing applications in the acute stage of eczema, I can recommend the calamin lotion:

℞	Zinc Oxid	ʒ ss
	Pulv. Calamin Præp.	℈ iv
	Glycerin	ʒ j
	Liq. Calcis	ʒ vij

Sig.—Mop on skin or bind on with cheese-cloth.

or,

℞	Tr. Opii Liq. Plumbi Subacetat	3 ijss
	Aquæ Rosæ	ʒ iv

As a soothing powder,

℞	Pulv. Zinc Oxid, Pulv. Amyli, Pulv. Lycopodium, aa	ʒ ½

As an astringent ointment,

℞	Acid Tannic	grs. v
	Bismuth Subnitrat	3 ss
	Ungt. Aquæ Rosæ	ʒ j

As a stimulating ointment in the stage of hyperemia with infiltration,

℞	Picis Liquid	3 ss
	Zinc Oxid.	3 iij
	Ungt. Aquæ Rosæ	ʒ ij

Ichthyol has been highly recommended as a local application in acute and chronic eczema, but I have had no experience with it.

As a blood depurative, I can highly recommend a preparation suggested by Dr. H. G. Piffard, having relieved one case of eczema of the legs almost immediately by its use. The formula is as follows:

℞	Herb Violæ Tricoloris	ʒ j
	Fol. Sennæ	ʒ ss
	Aquæ Bullientis	O ij

Let it stand until cool and then strain. Of this, the average dose is a tumblerful once or twice a day. It should be given, however, in quantity sufficient to produce four or five evacuations daily for two or three days, after which the dose may be diminished. The effects of active purgation with this infusion is in some cases of eczema, as Dr. Piffard says, very surprising.

Erythema is found in two varieties: *Local or Idiopathic* and *Symptomatic*, including the erythemata which occur in parts of other and general diseases.

In the former the disease is merely hyperemia, without much, if any, appreciable effusion into the cutis and cellular tissue; in the other there is more escape of serosity from the vessels. As an illustration of the second variety, I give the following history:

On February 17, 1896, I was asked to see a young girl, aged fifteen years, who had been suffering for two or three days from an alveolar abscess connected with the roots of the first lower molar tooth on the right side. The tooth had been removed, but she was still suffering considerable pain, due to the irritation and pressure of inflammatory products upon the sensitive ends of the branches of the fifth nerve. Her temperature, taken under the tongue, was 100⅘°; pulse 84, and she suffered from frequent urination, passing her urine every hour. Over her face, hands, arms, and about her waist, there was a marked erythema, which had come out around the glandular orifices and disappeared on pressure. This eruption caused considerable anxiety in the family, but as my diagnosis was erythema, I was able to reassure them. For the cleansing of the foul cavity from which the tooth had been removed, I prescribed a mouth-wash of carbolic acid, one dram to the pint of water, with the addition of a little glycerin, the application of a two-per-cent. solution of cocain on cotton (being careful to place only about four or five drops on the cotton, containing about one-tenth of a grain of cocain, and directing her not to swallow her saliva while cocain was in her mouth) to relieve pain, and the use of fifteen grains of citrate of potash and five minims of fluid extract of hyoscyamin dissolved in a teaspoonful of water and flavored with essence of lemon to relieve the frequency of urination. These measures relieved her distressing symptoms, but she subsequently was attacked with violent pain in the stomach, and nausea, which I relieved by a hypodermic injection of one-eighth of a grain of morphin. The erythema appeared February 17th and disappeared February 19th, with improvement of the other conditions.

Acne is one of the commonest skin diseases, according to the statistics of the American Dermatological Association. Its causes, active and predisposing, are local irritation, blood-states, reflected mischief, and puberty, at which time the circulation around the sebaceous glands incident to the growth of hair is particularly active and therefore particularly liable to derangement in anemia, scrofula, dyspepsia, constipation, uterine disease in females, and affections of the genital organs in the male.

Acne punctata, or comedo, I have found very rebellious to treatment, yet in some cases I have seen marked improvement follow the use of local remedies to promote removal of the sebaceous plugs and hyperemia, followed by lotions or ointments calculated to restore tone to the sluggish circulation, with internal remedies to remove dyspepsia, constipation, and liver inaction, improve the general tone and correct depraved conditions of the blood, as cod-liver oil and iodid of iron in scrofula, preparations of iron in anemia, and nerve-tonics, such as preparations of the hypophosphites with small doses of strychnia in irritable conditions of the nervous system due to disturbance of the balance of nutrition. The condition of the genito-urinary organs should be inquired into. The local applications which I have found most generally useful have been hot water and soap, followed by preparations of corrosive sublimate or sulphur in the form of lotions or ointments, as in the following:

℞ Ammoniæ Hydrochlo. . . . grs. xv
Hydrarg. Chlorid Corrosive . . grs. vj
Cochinillini . . . . . gr. ss
Aquæ Rosæ . . . . . ʒ iij
Sig.—Rub firmly on the skin night and morning.

℞ Hydrarg. Chlorid Corrosiv . . gr. jss
Pulv. Camphor . . . . . grs. x
Ungt. Aquæ Rosæ . . . . ʒ j
Sig.—Rub on the skin night and morning.

℞ Sulphur Præcipitat. . . . . ʒ i
Spts. Vini Recti . . . . . ʒ j
Sig.—Rub on the skin with a piece of flannel night and morning.

Mrs. H. M., age twenty-seven years, married three years, pregnant three months, consulted me February 10, 1896, suffering from comedo or acne punctata affecting the sebaceous glands of the forehead, temples, and hairy scalp, accompanied with symptoms of indigestion and constipation and strumous enlargement of the glands of the neck. The following treatment was prescribed for the indigestion:

℞ Ess. Pepsin . . . . . ʒ iv
Acid Nitro Muriatic Dilut. } aa . . 3 j
Tr. Nucis Vom. }
Bismuth Subnitrat. }
Sig.—Two teaspoonfuls in a quarter of a tumbler of water, before meals.

For the constipation, one tablet containing five minims of the fluid extract of cascara sagrada was given two or three times a day. A piece of gauze dipped in hot water and with some tincture of green soap was rubbed over the affected parts night and morning. Afterward the following lotion was applied to the forehead and temples:

℞ Sulphur Præcipitat. . . . grs. xlv
Boric Acid . . . . . grs. xv
Ether } aa . . . 3 ij
Cologne-water }
Alcohol . . . . . ʒ iij

To the scalp I recommend the application of a five-per-cent. solution of resorcin in equal parts of alcohol and water, with one dram of glycerin

February 17, 1896, the face was much improved,

and the scalp still scaly. I prescribed cod-liver oil and Blancard's pills of iodid of iron.

March 7, 1896, the patient recovered.

Acne simplex I have met with very frequently in practice in neurotic subjects suffering from general loss of nerve-tone, indigestion, anemia, malnutrition, or reflex irritation from diseased or abnormal conditions of the sexual organs. I shall give the history of one case, in which three different diseases of the skin were illustrated:

C. P., white, age thirty-six years, lawyer, weight 160 pounds, neurotic temperament, consulted me in March, 1889, and gave the following history: Has never had any severe illness, was perfectly well up to three or four years ago, since which time he has suffered from a thick feeling, as he expresses it, in the head, and a full feeling in the stomach. He noticed his eyesight failing in 1888, and complains of defective eyesight at the present time.

I asked Dr. Mittendorf to examine his eyes, and he reported as follows:

His case is one of the greatest interest to me; it is one of retinal and choroidal congestion. I do not think it very serious at present, but another attack of this kind may lead to exudation into the vitreous humor, and detachment of the retina. If you see him, will you please look after his digestion?

An examination showed an eruption of acne on the chest and back, due probably to indigestion and malnutrition, depraved nerve-tone and reflex irritation. A careful examination of the urine showed crystals of oxalate of lime; no albumin; no sugar. He was ordered to take a powder of bismuth, soda, pepsin, and ginger after meals, and, as a liver-stimulant, the following every night for twenty days:

℞ Euonymin, Irisin, Leptandrin aa . . . . . gr. j
Fl. Ext. Ipecac . . . . . ℥
M.—Ft. one pill.

March 25, 1889, his condition was the same. I prescribed ten drops of nitro-muriatic acid dilute in one tablespoonful infusion gentian co., after meals.

April 1, 1889: No oxalate of lime was found in the urine. He had flashes of light before the eyes when he got up in the morning or went upstairs quickly. There were no new acne spots; very little indigestion. For constipation, I ordered Buckthorn cordial, a teaspoonful to a tablespoonful at bedtime, and after meals a preparation of cod-liver oil, pepsin, and quinin.

April 8, 1889, the acne was better, but there appeared an eruption of herpetic vesicles on both buttocks, for which I prescribed the local application of the following lotion:

℞ Listerine, Aromat. aa . . . . . ʒ ijss
Aquæ . . . . . ʒ j
M.

April 15, 1889, the herpes was better, the bowels were regular, and there was very little indigestion. To continue the building-up treatment, I ordered him to take one tablespoonful of Moller's cod-liver oil after meals with ten drops of Thompson's solution of phosphorus.

The condition of this patient was improving until, on June 10, 1889, he appeared with acne on the back and chest again, having eaten a supper of lobster and crabs. This disappeared under proper treatment directed to stomach, liver, and general nutrition, and I saw no more of him until February 26, 1892, when he appeared, suffering from indigestion, fulness of head after eating, buzzing in the ears and flashes of light before the eyes, and a red, itchy, burning, vesicular eruption on the forearms, shins, and toes, which I recognized as eczema. It yielded to treatment based on the principles of stimulation of the liver, correction of digestion, and administration of tonics, with local applications, first soothing and then stimulating, as adapted to the stages of the trouble.

In acute urticaria, it is necessary, before prescribing treatment, to decide whether the trouble is the result of local irritation, disordered stomach, or reflex irritation from some other organ. If due to some dietetic error or stomach disorder, I have always been able to secure a favorable result by the administration of four grains of calomel, followed in six hours by a bottle of citrate of magnesia, combined with the soothing effects of a warm bath containing from three to six ounces of bicarbonate of soda to thirty gallons of water, and, as an antipruritic, sponging the skin with vinegar and water dilute acetic acid, or the following:

℞ Acid Carbolic . . . . . ʒ iij
Glycerin . . . . . ℥ j
Aquæ . . . . . O j
M. Sig.—Apply to the skin with a soft sponge.

Colchicum with salines have been recommended in gouty cases; acetate of potash and tincture of digitalis when fever runs high, and emetics in cases due to dietetic errors.

In cases of chronic urticaria the condition of the mind and the nervous system in general, the functions of stomach, intestines, liver, and kidneys, diet and manner of eating, and blood states demand the closest attention.

In October, 1895, I was consulted by a lady about forty years of age, who complained of an eruption of red blotches, which began in July, 1895. It came and went, as she expressed it, and was attended with intolerable burning, tingling, and itching. She seemed to be in perfect health, but gave a history of having lived in Germany near Hamburg during the preceding summer, and of having partaken freely of the peculiarly Ger-

man articles of food. A careful general examination showed some mental depression, and I was able to detect an anemic murmur over the base of the heart. She gave a family history of a gouty diathesis, her father, brother, and six sisters all having suffered from that trouble. After the removal of all local sources of irritation, such as flannel underwear, the avoidance of cold draughts, and the regulation of the diet, the local use of antipruritics, such as carbolic acid and vinegar and water, she was put on two-teaspoonful doses of Gude's syrup peptomanganate of iron three times a day, after meals, which was continued for about two months, with the result of, at first, slow improvement, and finally perfect cure.

In another case of this character, with well-marked symptoms of stomach disorder, I was compelled to insist on an exclusive diet of peptonized milk in connection with remedies indicated for anemia, which was evident.

Pityriasis versicolor, or chromophytosis, produced by the growth of the fungus *Microsporon furfur* among the horny cells of the epidermis and characterized by the appearance of yellowish-brown spots upon the chest and abdomen, I have met with quite frequently. For the destruction of the parasite I have recommended the washing of the parts with yellow soap or tincture of green soap and the application of a lotion composed of four or six drams of hyposulphite of soda and six ounces of water, or the application of tincture of iodin, or washing the spots with undiluted sulphurous acid, continuing the use of the parasiticide for a few days after the disappearance of the disease. Frequent changing and disinfection of the clothes worn next to the skin, and tonics, with nourishing diet, are necessary, as the affection usually occurs in debilitated subjects.

Pediculosis pubis I have always treated successfully by lotions of corrosive sublimate. In the male I have used a solution of two grains of corrosive sublimate to one ounce of cologne-water, or one per cent. solution (about eight grains to the pint) in equal parts of alcohol and ether. In the female, where cologne or alcohol would produce too much irritation of the sensitive mucous membrane of the vagina, or where the parts around the anus are involved, I have used a solution of two grains to six ounces water, washing the parts with vinegar to loosen the nits, advising that the garments worn next to the skin should be frequently changed and disinfected, that the parasiticide should be used for a few days after the trouble has disappeared. Where the limbs are hairy, they also should be examined carefully, as the parasite often appears there after it has disappeared from the part where it was first discovered. I have also found the parasite among the hairs on the armpits. Care should be taken in prescribing local applications of corrosive sublimate to ascertain if there are any excoriations of the skin present which would allow too rapid absorption of the drug. In that case a very cleanly method recommended by Dr. Cantrell of Philadelphia would be worth trying: "It consists in applying lint saturated with chloroform over the part affected, and covering it with oiled silk; this kills the parasite, and applications of vinegar will remove the ova."

Herpes progenitalis occurs frequently in persons with long and redundant prepuce, involving unusual irritability of the parts. In some cases circumcision has seemed to be necessary to prevent the frequent recurrence of the disease, but I have generally been able to relieve most subjects by the insisting upon absolute cleanliness and the application of the following lotion, suggested by Dr. E. L. Keyes:

℞ Listerin, Vin Aromatic } aa . . . ℥ijss
Aquæ . . . . . ℥j

M. Sig.—Apply between glans and prepuce on a piece of cheese-cloth, changing the dressing after each urination.

I have also succeeded in hardening the parts affected, after the cure of the affection, by advising frequent ablutions and painting the parts daily with a solution of tannin and glycerin, one dram of the former to one ounce of the latter. In these cases, the herpetic vesicles sometimes rupture, leaving ulcerated cavities surrounded by some induration, and these I have treated successfully by applications of thioform.

Pruritus or itching, general and local, is an affection which we meet with very frequently in practice, and is very annoying to both patient and practitioner. To the patient it is most distressing, and to the practitioner it presents a difficult problem, in many cases, for solution in determining its cause, when we note that it is an accompaniment of most skin diseases, except the skin manifestations in struma, syphilis, and the exanthemata, although I have the history of one case of syphilitic general eruption in which itching was a marked symptom.

Among the palliatives for itching, I have found carbolic acid in the proportion of one dram to the half pint of water, with a little glycerin, and perhaps half a dram of potassa fusa, a most efficient antipruritic.

In general pruritis in cases of jaundice due to functional or organic disease, I have prescribed

one-tenth of a grain of hydrochlorate of pilocarpin, three times a day, with good effect. Warm baths, alkaline baths, bran-water, and inunctions with oil I have used as soothing applications.

Chloasma has been applied somewhat loosely to all brownish or yellowish-brown discolorations of the skin larger than freckles. They occur as a concomitant of pregnancy or uterine disorder, and sometimes in neurasthenic conditions, and after proper investigation and treatment of such troubles I have sometimes succeeded in removing the spots, temporarily at least, by causing exfoliation of the epidermis by lotions of corrosive sublimate, five to ten grains to the ounce, applied two or three times a day until the epidermis loosens; this may then be rubbed off.

In the treatment of scabies or itch, I have found the ointment recommended by Dr. Tilbury Fox gives the best results:

℞ Sulphur	ʒ ss
Ammonio Chlorid of Mercury	grs. iv
Creosote	gtt. iv
Oil of Camomile	gtt. x
Adeps	℥ j
M.	

This is rubbed in night and morning for three days, especially to the interdigits and wrists; the same shirt is kept on until the third day, when it is changed and a warm bath given. The parasiticide must not be used for too long a time. I have also recommended the use of powdered sulphur in the bed of the patient at night.

Phtheiriasis capitis is often discovered when least expected, on persons whose vitality is below par and whose scalps are not in a clean and healthy condition. The three remedies which I have found efficient in the destruction of these parasites and ova are: Carbolic acid, fluid extract of staphisagria, and dilute acetic acid. The carbolic acid I have applied as an ointment of the strength of ten per cent., and have found it especially efficient in promoting healing of the excoriations produced by scratching. I have used, as recommended by Dr. Cantrell of Philadelphia, the following:

℞ Fl. Extract Staphisagria	ʒ j
Acid Acetic Dilut	℥ iij
M.—Apply thoroughly to the scalp.	

To promote a healthy condition of the scalp afterward, I have found resorcin a good local application, used according to the following formula: Five per cent. solution of resorcin in equal parts of alcohol and water, to which one dram of glycerin may be added.

Experience has taught me to watch for herpes zoster in patients who complain of obscure pains in the chest or abdomen. The etiology of the disease is so obscure and doubtful that it is difficult to name any efficient internal remedy. Since reading the paper of Dr. James M. Winfield of Brooklyn, regarding the malarial origin of zoster, I have prescribed quinin. Among local applications, I have found a preparation of sulphate of morphin, five grains to one-half ounce of collodion, a good protective and anodyne. For the neuralgia, I have used a pill consisting of one-third of a grain of phosphid of zinc combined with one-sixth of a grain of extract of nux vomica, given at the commencement of the attack and repeated every three hours. When this fails, morphin may be used.

Tinea tonsurans, or ringworm of the scalp, I have met with only once, and treated by shaving the hair and applying chrysophanic acid, seven grains, to one ounce of chloroform. The chloroform solution was well pressed and dabbed into the affected places with a minute sponge. The places should be well washed every morning with hot water and soap, to remove any sebaceous matter or crusts, and the hair should be kept closely cut on them till the new hair appears, which is generally in from two to three months.

As the sweat-glands are lined with epithelial cells, a faulty condition of such cells may have something to do with the disordered secretion. At any rate, with these views, we are warranted in administering such medicines and advising such measures as improve the general nutrition and tone, and applying such local remedies as will diminish the hypersecretion. Among the local remedies for accomplishing this purpose I have found belladonna, in the form of the tincture or the liniment, useful. Among internal remedies, those which are calculated to improve the condition of the nervous system would seem to be indicated, such as iron, quinin, strychnin, arsenic, and the hypophosphites. Sulphuric acid and atropin I have used with temporary benefit.

Dermatitis exfoliativa I have met with only once, occurring on the palmar surfaces of the hands and fingers. The patient was a carpenter and had suffered considerably from rheumatism. This case was characterized by redness and extreme tenderness and sensitiveness of the palmar surfaces of the hands and fingers, with desquamation or exfoliation of the epidermis, leaving a red and sensitive surface. A cure was effected by immersing the hands in warm water, about as hot as could be borne, two or three times a day, and the internal administration of Fowler's solution of arsenic.

THE MANAGEMENT OF THE SENILE HEART.

By JOHN W. BELL, M.D.,
OF MINNEAPOLIS, MINN.;
PROFESSOR OF PHYSICAL DIAGNOSIS AND CLINICAL MEDICINE, UNIVERSITY OF MINNESOTA.

UNDER the questionable title of "senile heart" I desire to call attention to a most interesting form of cardiac disease occurring in persons beyond middle life, especially in the decades between forty and sixty. The term "senile heart" is a most unfortunate one, inasmuch as it is used in an indefinite way by many physicians and writers, to include all cardiac changes of a chronic character in old or even middle-aged people who look senile. In this paper the term "senile heart" will be used in its restricted sense, hence, not including on the one hand previously existing valvular disease, or on the other those pronounced cardiac changes due to general arterial fibrosis, atheroma, or renal disease.

In order to make more clear the morbid condition to which the term "senile heart" is herein applied, permit me to call your attention briefly to the more constant or normal changes occurring in the heart—the result of advancing age. Every healthy individual starts on life's journey with a balance to the credit of his heart—the extent varying in different individuals; this balance we designate as reserve compensatory force. Hence, we are not surprised, on examination, to find the heart showing evidence of slight hypertrophy beyond middle life. This enlargement would seem but the logical outcome of the increased labor forced upon the heart by changes in the arteries, capillaries, and extravascular tissues, the result of age. Bizot and Balfour believe this change to be universal in all old people. From clinical investigation I am convinced of the truthfulness of this statement in the vast majority of cases. This slight enlargement is of gradual growth, unaccompanied by symptoms, and hence should be looked upon as a conservative or beneficial change. As long as the heart muscle maintains its integrity, all goes well with the individual; but if from any cause the innervation or nutrition of the myocardium be seriously interfered with, thus unfavorably modifying the normal senile enlargement, evidence of myocardial weakness accompanied by dilatation of one or more of the cardiac cavities soon appears, leading to grave embarrassment of the heart and circulation. The essential lesion is then a weakened myocardium, accompanied sooner or later by dilatation—the result not of inflammatory or degenerative changes, but of disturbed innervation or defective nutrition, arising from the many causes operative during and after middle life. These causes are so numerous and varied in character as to preclude more than a brief reference to them in this paper.

Among the more frequent causes of disturbed innervation may be cited the abuse of alcohol, tobacco, tea, coffee, sexual excesses, business or domestic worry; in fact, any cause, physical or emotional, if sufficiently violent or prolonged, may interfere with the innervation of the heart as evidenced by an irregular or intermittent pulse. Among those causes tending to interfere more directly with the nutrition of the myocardium may be mentioned anemia, hydremia, gout, dyspepsia, etc. As clinicians, we are all familiar with the following group of symptoms, constituting a clinical picture met with frequently in the examination of persons beyond middle life. An active business man beyond middle life, of good habits, previously free from any evidence of cardiac disease, begins to suffer from breathlessness on the slightest extra exertion, and from precordial discomfort and distress at intervals. His pulse becomes slightly irregular in rate, rhythm, or force, perchance intermittent. Slight overwork or worry precipitates an attack of palpitation; he becomes painfully conscious of the presence of a heart; consults his medical attendant, who finds, on examination, the following signs: A weak, almost imperceptible cardiac impulse located in or near the left nipple line. On careful percussion, the deep cardiac dulness is found to be slightly increased. On auscultation the heart sounds early may be normal, later, the first sound becomes shorter and weaker, accompanied by a faint systolic murmur, audible at the apex and frequently over the pulmonary area, if the left auricle be enlarged. A slight accentuation of the aortic second sound being the rule after middle life, I have seldom observed that sharp accentuation of the aortic second sound described by Balfour, which he ascribed to dilatation of the ascending portion of the aorta, but have frequently observed a short, faint, systolic murmur over the aortic area, faintly transmitted along the vessel, due, I believe, in the majority of cases, to dilatation of the ascending portion of the vessel. This clinical picture is but the reflex of a weakened myocardium, accompanied by dilatation of one or more of the cardiac cavities, which condition, if not recognized and relieved by proper treatment, soon gives rise to grave changes in the heart. These changes become apparent in the enlarged percussion area and by the presence of murmurs over the several valvu-

lar areas, accompanied, or soon followed, by all the unpleasant symptoms of cardiac failure, soon ending in death.

For the purpose of treatment, we may divide the clinical course of the disease into two periods or stages. First, the period of progressive and often slow development of myocardial weakness, accompanied by breathlessness, precordial distress, irregular pulse, and occasional attacks of palpitation. Second, the period of advanced myocardial weakness, accompanied by marked symptoms of cardiac insufficiency, such as constant precordial distress, dyspnea, frequent attacks of palpitation, marked irregularity of pulse, tachycardia, bradycardia, angina, and later, all the symptoms of general venous engorgement, ending fatally if uncontrolled.

The first period requires principally hygienic, dietetic, and general tonic treatment—our efforts being directed toward making the cardiac muscle equal to its task and to maintaining its integrity. Each individual case should be carefully studied, an accurate diagnosis being the first essential to successful treatment. Having then a clear conception of the patient's condition, it should be carefully and frankly explained to him, unless there be special reason to the contrary, when it should be explained to a friend or relative. The patient must be made to understand why he is to follow instructions explicitly, and informed that if he transgresses, his sin will manifest itself in more frequent and severe attacks of precordial distress, dyspnea, palpitation, and, perchance, angina. Having secured the confidence of the patient, our first endeavor should be to discover and remove every possible cause of cardiac irritation and embarrassment. Our second endeavor should be to so regulate the diet, exercise, and habits of the individual as to bring the general nutrition, as well as that of the heart muscle, up to the highest possible point and maintain it. For this purpose, in addition to hygienic and dietetic measures, general tonic treatment, consisting, according to indications, of iron, strychnia, arsenic, and bone-marrow will be found necessary. The patient should be advised to eat and sleep regularly, using three meals daily, composed of nutritious food suited to the requirements of his special case—the midday meal always being the principal one—no solid food being allowed between meals—little or no fluid with meals. The lungs should be supplied with a liberal diet of oxygen, hence the sitting and sleeping apartments of these patients should be well ventilated—tent-life being the ideal one; they should be urged to sleep at least ten hours out of every twenty-four, with a midday rest in the recumbent position of at least one hour following the principal meal, in order to minimize the daily labor of the heart; the latter injunction should be rigidly followed the remainder of the patient's life. The question of exercise must be carefully considered in relation to each individual case and with special reference to the condition of the myocardium. However, in the large majority of cases of "senile heart" absolute rest in the recumbent posture will be found necessary for a time at least. The patient's habits should be carefully regulated—tobacco, alcohol, tea and coffee should be interdicted. They should be urged to lead a quiet, orderly, and temperate life, as free from worry and excitement as is compatible with our modern civilization. Our resources will be sorely taxed in our endeavor to regulate the habits of senile patients. Yet, it is attention to the little things of eating, drinking, and doing, which makes success possible in dealing with this condition. How futile to attempt to restore the dilated heart of the tobacco fiend, opium-eater or alcoholic unless he forswears the habit.

Unfortunately, these patients do not present themselves for treatment until marked weakening of the myocardium has occurred, indicating the second or advanced stage of the disease. We are then confronted with the difficult problem of medicating a weak and dilated heart in an individual having, by virtue of his age, suffered certain vascular as well as extravascular changes, causing increased intra-arterial and cardiac blood pressure. Hence the condition of the circulation as indicated by intra-arterial and cardiac pressure, becomes the key to successful treatment.

For the relief of the more or less constant high intra-arterial pressure, we rely largely on the iodids and nitrites. I have found the iodid of sodium in from three- to five-grain doses, repeated three times daily, of marked benefit in dilating the arterioles, thus reducing intra-arterial pressure, the iodids having a much more prolonged action than the nitrites, are to be preferred for internal administration. The digitalis group, consisting of digitalis, strophanthus, strychnia, caffein, spartein, etc., render most excellent service in giving tone to the weakened myocardium, when combined with vascular stimulants like the iodids and nitrites.

In the management of pronounced senile cardiac insufficiency, no method of treatment has proven so eminently satisfactory in my hands as

that of subcutaneous medication, assisted by rest, baths, saline cathartics, Swedish movements, and massage. During the past three years, it has been my pleasure to see many cases of advanced cardiac dilatation respond to strychnia, digitalin, nitroglycerin, etc., hypodermically administered, which would otherwise have died under any other treatment at my command. In order to secure the best possible results, strychnia, digitalin, and nitroglycerin, should be combined for a time, later, omitting the digitalin, or using it interruptedly, according to indications—in every case increasing the dose of strychnia until it produces muscular twitching, and there maintaining it. The smallest dose of nitroglycerin capable of producing the desired dilatation of arterioles should be the rule. It has been my custom to begin with the 1–40 of strychnia, used every six or eight hours, gradually increasing the dose until its characteristic muscular manifestations appear, always combining it with nitroglycerin, and adding digitalin as indicated. Subcutaneous medication is especially indicated in the aged, owing to their naturally feeble gastric absorption, but more especially in the management of cardiac dilatation, owing to the accompanying gastric catarrh resulting from venous engorgement. It is urged against the subcutaneous method of treatment, that it requires the presence and expense of a trained nurse; on the contrary, any intelligent person can be quickly trained to use the hypodermic syringe, thus enabling the physician to carry out the treatment at the patient's house without additional expense.

In suitable cases, saline baths of a suitable temperature are an efficient aid in freeing the periphal circulation, thus relieving venous engorgement and its attendant ills. I begin with a bath of ten minutes' duration, the bath to consist of forty gallons of water at a temperature of 100°, gradually lowered to 92°, holding in solution 4½ pounds of chlorid of sodium. This is repeated daily for some days, then less frequently, gradually increasing the amount of saline, as well as the duration of the bath, from day to day, until the patient remains in the bath at least thirty minutes. I have never observed any unpleasant effects; on the contrary, patients have expressed themselves as feeling relieved and refreshed. During the bath, the pulse becomes slower and fuller, the respiration slower and deeper, and the cardiac impulse stronger and more circumscribed, with apparent at least temporary decrease in the transverse cardiac dulness. Massage and Swedish movements, properly applied, are useful aids in improving the circulation—the latter in the form of movements of resistance being of especial advantage, owing to the feeble muscular movements and sedentary habits of senile patients. Saline cathartics cautiously employed are especially useful in relieving the more or less constant gouty condition present after middle life; later, they prove invaluable in removing dropsical accumulations.

We thus see that the clinical history of the "senile heart" is not the story of a few weeks, or even months, but often comprises the life history of the individual in respect to heredity, habits, etc. Consequently, in this struggle with mortality—for it should be constantly borne in mind that we are dealing with an incurable condition—we should endeavor by careful investigation to search out and remove every possible cause of cardiac irritation and embarrassment, our time and labor being richly rewarded by the knowledge that we can, in the majority of cases, add years of confort and usefulness to the individual's life.

In conclusion, I desire to emphasize first, the necessity, yea, the obligation for early and prompt recognition of the danger signals indicative of beginning senile cardiac insufficiency, believing that no practitioner is justified in ignoring or passing as unworthy of therapeutic attention, the breathlessness, precordial distress, and irregularity of pulse so often encountered after middle life; second, to urge especially upon the profession the more general use of the subcutaneous method of treating cardiac insufficiency.

SOME THOUGHTS ON THE ORIGIN AND SPREAD OF CONTAGIOUS DISEASE.[1]

By W. H. FAULDS, M.D.,
OF LUZERNE, PA.

ASIDE from aseptic and antiseptic surgery there is, perhaps, no subject in which, at present, the laity and medical profession are taking greater interest than the origin and spread of contagious and infectious diseases.

With the advent of antiseptic surgery came the germ-theory of disease, and the theory of contagion and infection through microörganisms, and in this way was developed a force which has revolutionized surgery, and set at naught almost every principle upon which the leaders in sanitary and medical science had for centuries based their teachings and investigations. That such a radical change in the fundamental principles of these great factors in the world of science should work a cor-

[1] Read before the Luzerne County Medical Society.

responding change in the means used for the prevention and spread of contagious diseases goes without saying, and that the laity, physicians, and sanitarians should be tardy in adapting themselves to the new order of things, is what might be expected. However, we believe the time has come when we, as physicians, ought to be preparing ourselves to measure up to the standard required by the new régime, and thus escape the censure which is sure to come from a confiding public, if we prove recreant to our trust. But in order that we may be successful, we must first have a clear conception of the principles which are to guide us in our efforts.

A moment's consideration of the subject teaches us that almost all the vital processes are based upon the principle of supply and waste, and that waste material or filth becomes a source of disease only when misappropriated or diverted from its proper channel. In other words, the waste matter of animal life, if not properly appropriated, furnishes a hotbed for the reproduction of microorganisms, which are now recognized as the chief factors in the production and spread of contagious diseases. The land and city refuse, swept into our rivers, furnishes pabulum to the finny tribe, and they in return supply the most delicious meats to the inhabitants of every clime. But not only does the refuse contribute to the maintenance of all animal life, but the lower order of animals are sacrificed that the higher may subsist.

It is also true that this higher order may become the easy prey of the microscopical world, being sometimes swept down upon by an army of these minute invaders, their onslaught being more deadly than that of the best disciplined soldiery armed with the most approved weapons of modern warfare. But besides being the avowed enemies of the human family, vulture-like, these infinitesimal wonders are ever on the alert, watching for the first symptoms of decay, always ready to assert their prerogative whenever a soil favorable to their development and propagation is spread out before them. Unlike the human family, that select the best in the line of animal and vegetable foods for their sustenance, these disease-producing organisms revel only in tissues of low vitality, caused either by temporary departure from health, or the incipient stages of the process of degeneration and decay.

So intimately associated are they with the higher forms of life that they are found everywhere, even occasionally in healthy tissue. "They exist in the air, the soil, the water, in our clothing, on the surface of our bodies, and on the mucous membrane of the intestines, and respiratory tracts." But as we have already intimated, it is chiefly in decaying organic substances that they find a soil most favorable to their propagation and development. It is this special affinity of bacteria for animal tissue that has given origin to all the contagious and infectious diseases. Thus in scarlatina, diphtheria, measles, smallpox, typhoid, whooping-cough, and a host of other affections, we find in each its peculiar disease germ, each having distinguished features as familiar to the bacteriologist as the different types and races of the human family.

The question is sometimes asked: "Where did the first case of contagious disease originate?" One answer to this question is, that until spontaneous generation is proven and life shown to be the result of physical forces, these microörganisms, capable of reproducing themselves, must rank with the higher orders of organic life, whose origin can only be traced to Him who, in the beginning, created all things. If the smallest germ of animal or vegetable life may be the product of physical forces, then all life, yours and mine included, may be the result of forces in nature, and we need no longer look to a Supreme Being to solve the mystery of the origin of life.

By assuming that the pathogenic germs had their origin with other forms of organic life, the question as to the origin of contagious diseases still remains unanswered, and the only explanation we have to offer is, that the first case of contagious disease was caused by the presence of virulent bacteria in human tissue of lowered vital resistance, and that the pathogenic bacteria were made such by cultivation in a favorable medium, furnished by the habits and environments of man at some period in the history of the human race. That the virulent bacteria were not, in their pristine state, capable of producing smallpox, diphtheria, scarlatina, cholera, and syphilis, seems reasonable from the fact that these diseases are spread only by contagion or infection from a previously existing case, and that these diseases can be clearly traced to the countries in which the primitive germs were first made pathogenic. Again, it would be hardly fair to assume that these countries were exceptions to the rest of the earth's surface in the matter of containing these germs, and that primitive man took up his abode in the only countries fruitful of diseased germs, and which have since given as a legacy to his posterity almost every pestilential disease to which human flesh is heir.

To me, then, a logical inference is, that bac-

teria are present with the other forms of organic life in all parts of the habitable globe, and that all that is required to make them pathogenic is the favorable conditions which developed cholera and other germs in the countries where they first made their appearance.

The argument then is, that the conditions favorable to arousing the microbe to a state of activity must exist before the disease can make its appearance. But the bacteria, once active, act in the presence of conditions that could not arouse the microbe from its dormant state. To illustrate: cholera, so far, has failed to gain a foothold in this country because the conditions here are not such as to arouse the dormant germ. However, the active bacillus from abroad, that has become virulent from repeated multiplication in a favorable soil, produces the disease here in its fatal form among the susceptible, just as it does in the older countries. The same, I believe, is true of scarlatina, smallpox, measles, and diphtheria. Diphtheria was known and described by Galen. Memorable epidemics existed in Rome as early as A.D. 856, but it was not until eight hundred years later that this disease made its appearance in Switzerland and Germany, a century later in Naples and in our own country.

So of scarlatina, although known as early as the first century of the Christian era, it was first described by an English physician in the sixteenth century, and extended to the western world through European shipping in 1735, to Iceland in 1827, and to Greenland in 1847, showing conclusively that this germ, like diphtheria, was fostered and brought to a state of virulency still unknown to us, by the people who, in a state of ignorance and religious lunacy, looked to their gods for relief, while they themselves were violating every principle of the laws of health. Again, smallpox was first mentioned by an Egyptian physician in the sixth century, and undoubtedly this germ owes its extreme vitality to the favorable conditions under which it was aroused into activity, and its virulence developed.

So we might mention other diseases which exist here, but from which we would never have suffered had they not been brought to us from these disease-breeding countries, because the conditions here have, so far, not been such as to arouse the dormant germ.

Prior to the discovery of Koch, there were many theories extant regarding the spread of contagious and infectious diseases, none of which, however, receive confirmation in more recent investigations. But now the generally accepted theories are those of this great leader in scientific thought. And as his investigations have shown that all contagious diseases are dependent upon the presence of a microörganism, capable of self-propagation, the theory that every case of contagious disease must have had its origin in a previous case, at once became tenable.

This theory, however, was advanced by medical writers prior to the investigation by Koch of the germ theory of disease. Macnamara, in his discussions on cholera, says: "No amount of overcrowding, no special condition of the soil, nor any circumstances with which we are acquainted has ever been known to originate Asiatic cholera *de novo* among men removed from its endemic influences, or unless the disease has been epidemic beyond the confines of India." Again, he says: "Every outbreak of the disease beyond the confines of British India may be traced back to Hindostan, through a continuous chain of human beings affected with their dejecta."

In 1881, Wilson of Philadelphia, said of typhoid fever: "Without doubt the fever-producing principle is an organic germ, a *contagium vivum*, and is invariably derived from a previous case of enteric fever."

Macnamara also states in his discussions that "the more explicit the examination, the clearer the fact appears that the disease (cholera), in the majority of cases, spreads from one human being to another by means of the cholera fomes finding its way into the drinking water, and thus into the intestines of other people."

"I by no means deny," said Pettenkoffer, "the transmissibility of cholera by means of man coming from an infected place. I consider man alone as the specific cause outside the influence of the infected locality; moreover, I consider him the propagator of cholera, when he comes from a place where the germ of the disease exists."

What is said of cholera, we believe, upon investigation, will prove true of scarlatina, diphtheria, smallpox, and tuberculosis. We have ample proof that these diseases had their origin in the Old World, and were in all probability spread only through human intercourse.

Diphtheria was first brought to the United States through European shipping, and made its first appearance in Boston in 1735. "Thence it extended westward over the British colonies, reaching the Hudson and New York in two years, and after a time leaped over the barrier of the river. It gradually disappeared, attracting no further attention, except as a historical fact, noted by Douglas, Bard, Colden, and others."

Scarlet fever also had its origin in the Old World, and in its spread has been subject to the same laws regarding human intercourse as the other diseases mentioned. Again, tuberculosis, although known to the inhabitants of every clime, undoubtedly spread like cholera, syphilis, and diphtheria, from the thickly populated centers of the Old World, and is spread only, directly or indirectly, from animal to animal, or from man to man. That up to a few years ago there were isolated spots on the earth's surface that its virus had not penetrated, is rendered possible by the statement of Gibon, in the *Annual* for 1890. He says: "According to Certes there are no pathogenic microbes to be found at Cape Horn. The Fuegians did not know anything about smallpox, measles, scarlet fever, or diphtheria, before the inroads of civilized nations. Prior to the visits of the missionaries even pulmonary phthisis was unknown, and tuberculosis only began to establish itself in that country since 1881." It is said of the North American Indian that, before the discovery of America by Europeans, he was entirely exempt from the pestilential diseases. He had, in his primitive state no ailments, so far as we can ascertain, except such as were incident to exposure and old age. The gold hunters are said to have introduced smallpox into Mexico, and the adventurers from the Old World brought with them the eruptive fevers and loathsome contagious diseases of vice and immorality.

A French writer is authority for the following statement: "A soldier returned home consumptive, after undergoing confinement in a Prussian military prison. Previous to his return no one in the village had for many years suffered from consumption. He expectorated freely, and it was observed that the fowls swallowed the expectorated matter. These fowls were given to a woman in the village who was in perfect health, and in the course of four months she consumed sixteen of them. She had no direct communication with the patient, but after a time became consumptive. One of the fowls was killed and tubercle was found in the liver and other organs."

Again, it is said of cholera that the germs cannot retain their virulency long outside of human tissue. Thus, Pollock found that after each invasion or epidemic the germs died out, and with each recurrence there was a new importation of germs. This would account for the disappearance of the disease in this country after the epidemics which have several times visited us. That this is true of diphtheria, scarlatina, and smallpox, remains to be proven, but would appear probable from what has been said of the first epidemic of diphtheria in this country. That the germs must have lost their disease-producing qualities appears from the fact that the inhabitants were free from the disease from 1735 to 1835, a period of about one century.

This disappearance of the disease germ, unless a fresh supply is received from human tissue, would seem to be in accordance with a law of the animal and microscopic world, that neither can exist long in the presence of the poisons of its own excretions. Thus we find in the overcrowding of human beings in jails, barracks, and camping grounds, unless protected, they soon die of diseases produced by their own emanations. So the bacteria cannot long survive in the poisons which result from their presence in large numbers.

If, then, every case of a contagious and infectious disease has its origin in a previous case, and is spread directly or indirectly through human intercourse, and the germs of this disease die unless reinforced from animal tissue, it is certainly fair to assume that if all the disease-producing organisms could be prevented from attacking animal tissue, it would not be long before the virulent germs would have to return to their primitive dormant state for want of nutritive pabulum, and then would the declaration of Pasteur be verified, "That it is within the power of man to cause the parasitical diseases to disappear from the world."

If the principles here laid down are accepted as a working hypothesis, the destruction of the virulent bacteria by isolation, quarantine, and disinfection, must form the basis of our efforts to prevent the spread of contagious and infectious diseases. But all medical writers are not in accord on this subject.

Pettenkoffer, who has given us an extended array of works on cholera, says: "Too much importance has been given to bacteria as an etiological factor in the spread of cholera, and the importance of local conditions has been overlooked." He tried to prove his position by taking into his system the cholera bacillus; the cholera bacilli were found in his stools for eight or nine days after ingestion, but his health was not seriously affected. He is also strongly opposed to quarantine, and says that the spread of the cholera germ is not to be prevented, either in India or outside of it, by isolation, quarantine, disinfection, etc. He further says: "Just as in spite of custom houses, goods are still smuggled over the frontiers, so the bacteria and viruses will be smuggled through all our barriers." He re-

gards the millions expended in hunting down the germs as wasted effort, which should be diverted to the work of making people and places immune. I have cited this authority more to show how easy it is for eminent men to give adverse views concerning precautionary measures which sanitarians of equal eminence, after a long struggle, have barely succeeded in establishing.

The importance of isolation has long been recognized. A century ago Naples fined and even imprisoned her physicians for failing to report to the authorities cases of tuberculosis, the result being a reduction in the mortality from this disease of ninety per cent.; and despite the fact that at a later period these measures were abandoned, under the impression that this disease was not contagious, recent experience argues that isolation affords the only practical solution of the question of how to prevent the spread of this most fatal of all maladies.

It is said of England, that within the past few years, through improved hygienic conditions and isolation of the tuberculous patients, the mortality has been reduced fifty per cent.

Philadelphia, during the past eight years, has reduced her mortality from phthisis twenty per cent. California, in view of the fact that it is rapidly becoming the great sanitarium for these unfortunates, is seriously considering the importance of the isolation of phthisical patients in order to prevent the spread of the disease.

I need not quote authority to convince you of the importance of this measure in the prevention and spread of diphtheria, scarlet fever, and the other contagious diseases.

A question of more practical importance is, what are we doing to prevent the spread of disease? Our answer is nothing compared to what ought to be done. I would not for a moment disparage the work of our State Board of Health, or the efforts of our local boards. They are probably doing all in their power, considering the means at their disposal, and the niggardly policy of our legislature by which they are handicapped. But I am convinced that nothing worthy of the effort will be accomplished until every person and animal threatened with, or sick of, a contagious disease can be isolated and thorough disinfection practised under the care and direction of a competent bacteriologist. If, as we have argued, a virulent disease germ is abroad and cannot be destroyed so long as it can find a favorable soil for propagation in human or animal tissue, anything short of complete isolation will be wasted effort.

So far we have said nothing of what is being done by inoculation to render persons immune, or prevent the spread of disease. If we were to judge of the value of this method of preventive treatment by the newspaper notoriety antitoxin has received, it would indeed be a great boon to humanity, but, as you know, the results thus far have been disappointing to the medical profession, and even if man could be rendered immune, the exceptions would be so numerous as to make it unsafe to depend on that alone.

Much of late has been said of increased vital resistance as a preventive against the invasion of virulent microörganisms. In those predisposed to tuberculosis, this is undoubtedly an important factor. But in cholera, smallpox, diphtheria, syphilis, and scarlet fever, comparatively healthy persons are attacked, and if nothing in the physical condition or hygienic surroundings of the human family, at the present day, can produce the disease without the specific germ, as it has come down to us through propagation in human tissue, vital resistance would be of secondary importance compared to isolation, disinfection, quarantine, etc. If these measures were faithfully carried out, there would soon be no germs to attack even tissue of lowered vital resistance, unless the conditions of the Old World, by which they were first aroused from their dormant state, were recurrent. The results obtained by vaccination in smallpox would seem to encourage a trial of this method of preventive treatment in other diseases, but we must not forget that while vaccination was a great discovery, and has done much to prevent the spread of smallpox, we are also very largely indebted to isolation, quarantine, and disinfection, for the immunity we enjoy from this disease. Indeed, I believe it fair to assume that had it not been for the increased immunity made possible only by isolation and quarantine, mankind would have long ago lost confidence in the protective power of vaccination, and abandoned it as a useless procedure.

That there are almost insurmountable difficulties in the way of carrying out the measure proposed for the prevention of the spread of disease we frankly admit, but, nevertheless, the fact confronts us, that unless we can prove the correctness of our theories by the results obtained, the laity will soon lose confidence in our teachings, and refuse to coöperate in our work, and what has been regarded as the greatest discovery of the age—the transmission of disease through microörganisms—may pass into oblivion, because of the stupidity of the laity and the want of faithful, persistent, courageous effort

on the part of sanitarians and the medical profession.

A summary of our "thoughts" then is:

1. That non-virulent microbes exist in all parts of the habitable globe.

2. That they were made disease-producing in the case of cholera, smallpox, syphilis, diphtheria, and tuberculosis, in the thickly populated centers of the Old World through overcrowding, and bad hygienic conditions, such as have never been known to us.

3. That the virus is always derived from a previous case, and is spread, either directly or indirectly, through human intercourse.

4. That increased vital resistance renders persons immune only in tuberculosis and other exceptional instances.

5. That if virulent bacteria could be prevented from finding a lodgment in human tissue, they would, for want of nutritive pabulum, soon return to their primitive dormant state.

6. That isolation, quarantine, and disinfection, under the direction of bacteriologists, are the only means by which we may hope to successfully prevent the spread of contagious and infectious diseases.

CLINICAL MEMORANDA.

A CLINICAL VIEW OF PYELITIS, WITH REPORT OF A RECENT CASE SUCCESSFULLY TREATED BY INCISION AND DRAINAGE.[1]

By J. HOWELL WAY, M.D.,
OF WAYNESVILLE, N. C.

PYELITIS is the name given by R. Ayer to inflammation of the pelves of the kidneys and of their calices. The disease may affect one or both kidneys, it may be acute or chronic in its course, but like the majority of genito-urinary disorders encountered in practice, is usually subacute or chronic, undergoing, perhaps, from time to time acute exacerbations. In simple catarrhal inflammation the mucous lining of the renal pelves is reddened, swollen, and pours forth an abundant secretion containing pus-corpuscles, epithelial cells in varying quantity, and occasionally also blood-corpuscles. In more severe types, met with almost solely as a complication of other pathological conditions, an actively purulent or ulcerative inflammation may exist. In chronic pyelitis the mucous lining of the pelves is thickened and its surface studded with small vascular granulations; the pelvis, infundibula, and ureter are also thickened, and usually dilated as well. Pus is freely poured forth and, if the patency of the ureter be maintained, escapes with the urine. Should an obstruction take place in the ureter, as frequently occurs from the thickening of its walls, or from coagulated blood, or thickened flocculi of pus, from calculi or from the presence of parasites, it accumulates in the pelvis, distending it more and more, and giving rise to a condition known as pyonephrosis. This process of dilatation, as it increases, encroaches first upon the papillæ, flattening and eventually obliterating them. Later the pyramids are subjected to the same pressure and atrophy, and finally, when the pelvic dilatation has existed for some time, the cortical portion of the kidneys disappears. In such cases we have only a sacculated pouch remaining, which contains from perhaps only one to many ounces of fluid, often mixed with inspissated pus, products of ammoniacal decomposition, calcareous matters, and calculi. If the pyelitis has been secondary to renal calculi, as it frequently is, there are also apt to be present more or less extensive ulcerations. Perforation of the renal pelvis sometimes takes place, with resultant extravasation of its contents into adjacent tissues or organs. The perirenal tissues, the bronchi, the pleural cavities, the intestine, the bladder, the structures immediately behind and below Pouparts' ligament, and, rarely, the peritoneal cavity are all possible sites for the discharge of the secretions of a perforated pelvis. In cases of pyelitis of long standing we not infrequently have developed from an increase of interstitial connective tissue and an atrophy of renal tubules a condition of contracted kidney differing perhaps but little, save in its etiology, from the cirrhotic kidney of certain types of Bright's disease.

Probably first among the causes of pyelitis is the extension of a diseased condition from the bladder along the ureter to the kidney. Whatever produces retention of the urine may set up cystitis, with its concomitants, fermentation and decomposition of urine, and then later, if the cystic disorder continues, extension along the ureters to the renal pelves. It is the cases of pyelitis from this cause which are so prone to degenerate into pyelonephritis or surgical kidney—the pelvic inflammation induced by microbic action involving the proper tissue of the kidney itself. Potent among the influences in bringing about these results are gonorrhea, stricture, prostatic disease, pregnancy, abdominal tumors, vesical paralysis, etc. The irritation of renal calculi or of other foreign bodies in the kidney-pelvis is a frequent cause of pyelitis. Specific influences, as tuberculosis or rheumatism, at times act as causes. It may be a complication of typhoid fever, pneumonia, scarlatina, diphtheria, and smallpox. Traumatisms, blows, or contusions in the iliocostal region may be the causative factors. The irritant action of a hyper-acid urine or of the overuse of diuretics of the stimulant kind, copaiba, turpentine, or cantharides, may set up a catarrhal pyelitis. A primary pyelitis or pyelonephritis, coming on after over-exertion or exposure to cold, and without any of the above causes apparently being in operation—idiopathic pyelitis—has been described by a few writers, but its existence is denied by the majority of medical authorities; yet I am convinced that we do meet at times with such cases. In this class I have placed the case herein reported.

The mild catarrhal cases occuring in conjunction with the specific fevers are, as a rule, devoid of very pronounced

[1] Read before the North Carolina Medical Society, May 14, 1896.

symptoms, and doubtless in the great majority of instances pass unrecognized, the pain in the back, if present, and modified urine being referred to other causes. Pain in the back, deep-seated, usually limited to the affected side where the disease is unilateral, aggravated by pressure and exercise, is generally present, though in occasional cases this symptom is absent. Where renal calculi are present, attacks of nephritic colic are experienced from time to time. In some cases, without the presence of stone there occur attacks of paroxysmal pain having all the typical features of nephritic colic. The secretion of urine is increased, and early in the disease contains blood-corpuscles, albumin in moderate or small amounts, and an abundance of small round or oval spindle-shaped or irregular epithelial cells thrown off from the renal pelvis. Only a few years since it was claimed that there were certain peculiarities about the pelvic epithelium—the so-called "tailed epithelium"—which rendered the diagnosis of pyelitis certain. The recent careful and painstaking investigations in the laboratory of Professor Satterthwaite have conclusively demonstrated the impossibility of basing a positive diagnosis of pyelitis upon anything found in the urine with a microscope. Later in the disease this profusion of epithelial cells is replaced by pus-corpuscles, which are evenly distributed throughout the urine, giving it a uniform turbid appearance when voided. On standing, the pus settles into a dense greenish oily-looking deposit. The specific gravity of the urine varies from 1025 to 1030, and is from first to last, as a rule, uniformly acid. Occasionally the pus disappears entirely from the urine for a few days, then reappears in increased amount, this being usually due to temporary occlusion of the ureter of the diseased kidney. Exercise increases the volume of pus. Where the ureter becomes occluded, we not infrequently have some swelling developed in the iliocostal space. The prominence of this swelling varies from time to time. When the ureter is open it may quite disappear; the ureter becoming plugged again with pus, blood-clot, or stone, the swelling promptly reappears. The pain in the back is usually greater when the swelling is prominent and pus is not flowing freely. Frequent micturition is usually met with in pyelitis, and when this symptom is pronounced, in the absence of pain, tenderness, or tumor in the loin, errors in diagnosis may readily occur. This tendency to frequent micturition in pyelitis is present as a reflex symptom, even in those cases where the bladder itself is unaffected. Suppurative pyelitis, whether occurring idiopathically or as an intercurrent affection, is usually ushered in with more or less pronounced chilliness, followed by fever. This tendency to rigor is apt to recur, assuming at times a quotidian or tertian type, in which event the disorder may be mistaken for malaria. When the pyelitis is bilateral, a subnormal temperature, according to Tiffany, is frequently noted. Later the fever assumes a hectic form and the general clinical picture of prolonged suppuration is presented. The clinical course of some cases, more especially those of tubercular character, resembles very much that of typhoid fever. In rare instances cases are seen which show pyuria present, with possibly slight tenderness over the kidney from time to time, without the supervention of serious constitutional or local symptoms. The appetite is apt to be poor—at best capricious—the digestion impaired, and the bowels alternating from constipation to diarrhea. Exceptionally the decomposition of urine and absorption of ammoniacal products give rise to the development of a train of obscure nervous symptoms similar to those presented in the last stage of diabetes. In this connection it is well to bear in mind the possibility of uremic symptoms arising.

Suppurative pyelitis is frequently confounded with cystitis. The two conditions may coexist in the same patient, but if carefully noted, the history of the case, the acid character of the urine, the less frequent occurrence of alkaline decomposition, the pain and swelling in the loin, the absence of vesical pain, would usually suffice to differentiate the two conditions. In perinephritic abscess neither pus, blood, mucus, epithelium, nor albumin are found in the urine; in pyelitis all are present. In perinephritic abscess, motion is much more painful and the patient, as a rule, is unable to straighten perfectly the affected side, the leg being held in the position of that of a patient in the first stage of hip-joint disease.

The *prognosis* in a given case of pyelitis will depend most, perhaps, upon the exciting cause. In simple catarrhal cases developing in connection with constitutional disorders, the prognosis is good. If the disease be limited to one side, recovery is possible, no matter how serious the lesion. Affecting both kidneys, the prognosis is unfavorable. Occuring as a secondary affection to prostatitis, cystitis, urethral stricture, it is necessarily considered serious. Dependent upon a renal calculus, hydatids, cancer, or tubercle, we can but view it with concern. When pyonephrosis is present, the condition becomes grave; pressure-atrophy may destroy the kidney, or fatal rupture may take place.

The *treatment* of pyelitis will depend largely upon the causes inducing the disease. During an acute attack attended with fever, severe pain, and frequent passing of bloody and purulent urine, attention to the *primæ viæ*, with an opiate to allay spasm, warm diluent drinks, hot baths, hot local fomentations or wet cups over the affected kidney will meet the more prominent indications for treatment. Lithia waters have been highly extolled by some physicians in pyelitis. Alkaline and antiseptic diuretics are probably productive of beneficial results in these cases. In chronic cases, and it is this class that are seen, or at least diagnosed, most frequently, where there are reasons to suspect the possible presence of stone or other conditions which may at any time induce obstruction to the flow of urine, every effort should be made to counteract with suitable regimen, diet, and tonics the tendency to asthenia. The patient's symptoms and the local conditions should be noted most carefully, and if, after a short time, the indications of disease continue and the local conditions are unimproved, I believe it is then our duty to cut down upon the kidney and drain it. The use of the aspirator as a means of treatment is mentioned only to condemn it, increasing observation convincing me there are very few conditions of the human body where the scalpel cannot be more advantageously used than the as-

pirator. I desire to direct your attention briefly to a case recently operated upon with successful results:

On December 20, 1895, I was consulted by my friend Dr. Wilson, of Sonoma, who gave the following history of his patient, presented a specimen of the urine, and requested my assistance in diagnosis and treatment: B. B., a tall, angular, robust mountain farmer, aged thirty-eight, six or seven weeks previously after working very hard and exposing himself, was taken with a pronounced chill, followed by fever. Great pain and decided tenderness were early experienced in the left iliocostal space. The urine was voided frequently, and was often bloody and purulent. Chilliness from time to time continued with an intermittent type of fever. He became reduced in flesh and experienced night-sweats. The urine continued as before. Sometimes the Doctor thought there was possibly a small tumor in the region of the left kidney, at others he was not so sure of it, and even doubted the existence of any. I found the urine distinctly acid in reaction, albuminous, loaded with pus, blood, and epithelial cells. A probable diagnosis of suppurative pyelitis was made, and an operation suggested. January 11, 1896, I was summoned to see Mr. B., who told me that he had finally "consented to be cut, if it could be done without taking anything"—meaning an anesthetic. He was quite reduced in flesh; pulse 126; temperature, at 3 P.M., 102.6°. Dr. Wilson stated that the same symptoms as previously detailed had continued present. The patient was placed upon the table, and as careful preparations were made as would be possible in a mountain cabin with one room, 16x18 feet, inhabited by the husband, wife, and seven children. Four ounces of whisky were administered, and a four-per-cent. solution of cocain muriate was injected along the line of the proposed incision. An anesthetic, with inhaler, was ready at hand for use, in case the patient changed his mind. I must not omit, however, to state that he did not, and no anesthetic other than the whisky and cocain was used. A slightly oblique incision, four inches in length, was made, extending from the last rib at a point from 3½ to 4 inches to the left of the vertebral spines, passing a little forward as it descended to the iliac crest. The abdominal wall was carefully gone through, being 2¾ inches in thickness at this point, when, with the edges of the wound well retracted, the renal capsule and the distended pelvis bulged slightly into the wound as backward pressure was made in front on the abdomen. This was opened, when about eight or ten ounces of bloody, purulent, urinous fluid escaped. More or less thick flocculi of partially inspissated pus were found in the pelvis and calices of the kidney, but no calculi. After thoroughly washing out the pus-cavity, a liberal pledget of iodoform gauze was carried to the bottom of the wound, which was left entirely open. Dr. Wilson skilfully conducted the after-treatment, daily washing out the cavity and gradually shortening his pledget of gauze. From him I learned that only for a few days was there any urinous flow from the wound, which gradually filled from the bottom by granulation. This patient called at my office a few days since. He looks strong and well, and tells me that he is entirely free from any symptoms of urinary disease. In answer to my inquiry as to the existence of any antecedent genito-urinary or venereal disease prior to the pyelitis, he insisted on possessing a "clean bill of health from his youth up." September 10, 1896, he reported himself in excellent health.

SUBCORACOID DISLOCATION OF THE HUMERUS IN A MAN NINETY-TWO YEARS OF AGE—REDUCTION, WITH PERFECT RECOVERY.

By H. D. WALKER, M.D.,
OF FRANKLINVILLE, N. Y.

THE following case is thought worthy of reporting for two reasons; first, I am unable to find the report of any one of that age with a dislocation of the humerus, and second, I failed to reduce by Kocher's method, but easily accomplished reduction by other means. The oldest person I can find recorded with a dislocation of the humerus is eighty-six years of age. Guterbock reports one, both humeri being dislocated in an old lady by falling from her bed,[1] and Dr. H. B. Sands reports another in a lady, also aged eighty-six years.[2]

On December 23, 1894, I was called to see Mr. M. S., ninety-two years old on the seventh day of the preceding September. While emptying a pail of water he had slipped on a stone covered with ice and fallen heavily, striking on the left shoulder. He was picked up by his friends, carried into the house, and I reached him about half an hour after the accident. I found him sitting in a large rocking chair supporting his left arm with his right hand. He was very pale, and at intervals would lose consciousness from the pain and his weak condition.

On removing his clothing to the waist and examining him, I noticed that the left arm was abducted from the body about thirty degrees. There was an abrasion of the skin on the left shoulder at the upper posterior and outer part, showing plainly where the force of the fall was received. On placing the hand on the opposite shoulder it was impossible to bring the elbow down to the chest. The acromion process was prominent, and on rotating the arm the head of the humerus could be plainly seen and felt beneath the coracoid. After giving him a glass of hot whisky, I laid him on his back on a lounge, and, with an assistant to hold down the opposite shoulder, proceeded to reduce the dislocation by Kocher's method, as modified by Dr. C. A. Powers.

Four times I faithfully tried to reduce the bone in this way, but failed. In performing the second movement, *i.e.*, rotating the arm outward, so much resistance was met that it was not fully rotated, the patient exclaiming each time that I would break his arm. I did not deem it prudent, in his condition, to give an anesthetic, moreover, I have always succeeded in reducing a dislocation of the humerus without one. After a short rest, I placed a towel through the axilla and directed an assistant to take hold of the hand and make moderate extension, first, directly downward and forward, then gradually across the body to the right.

[1] MEDICAL NEWS, vol. xlvii, page 541.
[2] *Med. Record*, vol. xix, page 45.

While the extension was being made in this way I drew upward and outward on the towel, when the head was felt distinctly as it slipped back into place. This is the first time I have failed to reduce a subcoracoid dislocation by Kocher's method, and it may be well to inquire why I did not succeed. I attribute the failure to a lack of rotating the arm sufficiently outward, being fearful, on account of the age of the patient, the great resistance met, and his cries that I would break his arm, that fracture would actually occur. What was the cause of the uncommon resistance met with on rotating the arm outward? I am of the opinion it was due to degeneration of the muscles and ligaments about the joint, consequent upon old age, so they would not permit full rotation of the arm outward. I notice there are contractions of the palmar fascia in both his hands, also a want of freedom of motion about the right shoulder and the joints generally, such as we usually find in old persons. At the present time, about one and a half years after the injury, I find the arm in as perfect a condition as the right one.

MEDICAL PROGRESS.

Celluloid Bandages.—LANDERER and KIRSCH, (*Centralblatt f. Chirurgie*, 1896, No. 29) have experimented with celluloid as a substitute for plaster of Paris in bandages. The weight of such a bandage is less than one-fourth that of a plaster-of-Paris one and less than half that of one stiffened with water-glass. It is said to be not very expensive. According to the authors a jacket costs in Germany about 5 marks ($1.25), which is no real objection to its use when one considers that, if well made, it will last for months, and presents the further advantage of a smooth surface, readily cleaned, and is impervious to urine and other discharges.

Its application is as follows:

The sheet celluloid is cut into small pieces and dissolved in a close-stoppered bottle in acetone, enough of the fluid being used to rise four times as high in the bottle as the celluloid. This solution of celluloid is rubbed into each layer of the gauze or crinolin bandage or jacket, an ordinary kid glove being worn for the purpose, as the celluloid otherwise dries on the skin, and can only be washed off by acetone. For a jacket at least ten layers are necessary; for a bandage from four to six layers, according to the strength required. The outer layer is smeared with a coating of the celluloid, which forms, when dry, a highly polished surface. It takes three or four hours for a celluloid bandage to dry. That is considerably longer than is the case if plaster-of-Paris is used. In order to permit of ventilation, small holes may be punctured in the jacket wherever necessary.

Arsenical Paralysis.—COMBY in the *Gazette Médicale de Paris*, July 4, 1896, mentions the case of a girl aged seven, whom he treated for chorea by the administration of arsenic, commencing with one-seventh grain and increasing up to one-half grain of arsenious acid. In eleven days she received nearly four grains (235 mgm.) of arsenious acid. There were no choreic movements after the fifth day. On the sixth day gastric symptoms developed, and continued some time. On the twenty-sixth day the patient left the hospital completely cured. Four weeks later she was attacked by paraplegia in the legs, followed some days later by loss of power of the muscles of the trunk, arms, and sphincters. Electrical reaction was absent. Meantime the patient, who had first entered the hospital pale and thin, had become stout and rosy-cheeked. Under strychnin, electricity, and sulphur baths there was complete recovery in about five weeks. Comby considers that the nerves were not affected by the poison, but that the patient suffered from arsenical myelitis.

Instrument for Injecting Artificial Serum.—TOLÉDANO (*Journal de Médecine de Paris*, June 28, 1896) has devised a simple and practical instrument for the injection of artificial serum. It consists of a stout bottle, which holds the fluid to be injected. Through a rubber cork two glass tubes enter the bottle. Connected with one is a hand-bulb. The other one, which reaches nearly to the bottom of the bottle, is connected with the injecting needle. By means of the bulb air is pumped into the bottle and the serum is forced out. A chain over the cork keeps it in position.

Treatment of Ocular Traumatisms.—TROUSSEAU (*Gazette Hebdom. de Méd. et Chir.*, June 14, 1896) gives as general rules in injuries of the eye: (1) Render aseptic the eye and conjunctiva. (2) Cover it with a dry aseptic dressing.

The former is best accomplished by free lavage with a warm bichlorid of mercury solution 1–4000. If free from alcohol and filtered, this solution cannot possibly do any harm. With the patient in a horizontal position, the lids are held apart with one hand while the solution is allowed to trickle into every corner of the eye from a mop of absorbent cotton. When thoroughly cleansed, the eye is covered with a dry, sterile dressing and a starch bandage.

Foreign bodies, if superficial, should be removed under cocain. Wounds of the conjunctiva are to be stitched with the finest catgut or silk. Wounds of the ciliary circle are dangerous, and should not be touched. Small wounds of the sclerotic heal readily; larger ones should be closed by a conjunctival flap. The author speaks against hasty enucleation, meantime watching carefully the other eye for sympathetic ophthalmia.

Apparent Recurrences of Malignant Tumors.—GADE (*Deut. med. Wochenschrift*, July 2, 1896) mentions a pseudo-recurrence of a malignant tumor in the scar left by its operation, which may very likely have caused anxiety to others. In two instances in his practice a rapidly growing hard nodule in the cicatrix of a recent operation led the operator to suspect malignancy. The nodules were removed, and upon microscopical examination they were found to be composed of fibrous and granulation tissue surrounding a few cotton fibers. This possibility of including in a wound aseptic threads of cotton is an increased one, since the use of dry-gauze sponges has become general.

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SATURDAY, SEPTEMBER 26, 1896.

TREATMENT BY ERYSIPELAS TOXIN.

IN an article published in the *American Journal of the Medical Sciences*, September, 1896, Coley reviews the literature of the treatment of malignant tumors by injection of the toxic products of erysipelas cocci and prodigiosus bacilli, and gives details of the most instructive cases treated by himself and several other surgeons.

Recognizing the caution with which reported cures of malignant tumors have ever been received, the author has taken pains to avoid error in diagnosis, and has confirmed in almost every instance the clinical diagnosis by a microscopical one. Several microphotographs and photographs of patients before and after treatment, are reproduced. In all, 168 patients were treated by him, 94 of whom were suffering from sarcoma, 63 from epithelioma or carcinoma, and 10 from tumors, the character of which, though apparently malignant, was not absolutely determined. A few non-malignant cases were also treated.

In thirteen of Coley's patients, and ten of other surgeons, the tumors entirely disappeared. In a few instances there was a recurrence in a few weeks or months, but in the large majority no recurrence had manifested itself at the time of report, though the author does not claim that these patients are permanently cured, and owing to the uncertainty of results, he advocates this treatment only in inoperable cases. The longest elapsed time without recurrence is now over four years, the living cultures having been employed in that case.

With three exceptions, all of the tumors which disappeared under the injection of the toxins, were sarcomata. To set these twenty cases all aside as worthless, on account of a possible error of diagnosis, is to say that some half dozen of our most skilled pathologists and three times as many surgeons do not know a sarcoma when they see it; and the same sort of sweeping generalization would have to be applied to the results obtained by operation on tumors of this class. Welch, in discussing this point before the Johns Hopkins Medical Society, April 6, 1896, said that some pathologists are inclined to rank certain kinds of sarcomata among the infectious, rather than the genuine, tumors; but that this applies to the lymphoid rather than the spindle-celled sarcomata, and the fact that the best results, after injection, have been obtained in the spindle-celled tumors (fourteen injected, seven cured), is especially strong evidence of the specific curative power of the toxins.

Just what the underlying principle is, or how wide its application, Coley himself is not prepared to say. In many cases, the effect of the toxins was shown for a time by a decrease in the size of the tumor, an improvement which was, unfortunately, only temporary. In other cases it was apparent that the general condition of the patient could not stand the depressing effects of the injections in sufficient quantity or for a sufficient length of time to destroy the malignant neoplasm.

Coley has had better success with this treatment than the other surgeons who have tried it. More than one-half of all the sarcomata which came under his treatment showed at least a temporary decrease in size; and of the fourteen cases of spindle-celled sarcoma, seven, or just one-half, disappeared and have not returned. This is the type of sarcoma which responds most easily to the treatment. This favorable showing is doubt-

less partly due to the zealous continuance of treatment under conditions which would ordinarily be called hopeless, but still more, perhaps, to the fact that the toxins employed by him were all from fatal cases of erysipelas, and were proved to be possessed of a great degree of virulence. For clinical and experimental testimony agree that there is the greatest variation in the intensity of different cultures of the same bacteria, as has been strikingly illustrated—for example, in the experimentation of the New York Health Board in the production of diphtheria antitoxin.

Without for a moment sharing the illusory hopes, which every new remedy creates, the conclusion is certainly warranted that in the use of these toxins, we have a means of attack upon malignant growths, especially efficacious against certain forms of sarcomata, but whose influence extends to a certain degree to almost all of the varieties of malignant tumors, and it is not unreasonable to expect that a further experience will so extend that influence as to save many victims of cancer, whose disease is beyond the reach of the knife.

FAKE SCIENCE.

SOME months ago we had occasion to speak under "The Color of Sin" of the debt of gratitude under which the secular press was constantly placing scientific medicine, by heralding medical discoveries so far in advance of actual fact and reasonable probability that the medical press seemed but laggards in the march of progress. At that time it had discovered one Elmer Gates, of Washington, D. C., who had discovered that the reaction of the perspiration, when treated by certain reagents, gave certain colors, which were indicative of the emotions under which the individual was laboring, and especially that the pink reaction was indicative of conscious guilt—the color of sin. More recently this same Gates is represented as advancing still farther into the illusory realms of biology and psychology and announcing as scientific fact the visionary mysteries of a morbid imagination.

He has been able to train animals and human beings in such a way that he causes the development of new ganglion-cells in the cortex of the brain. He purports to be able to utilize such knowledge for pedagogical purposes, and we are informed that not only his own child, but the children of others are having new ganglion-cells developed in their cortices according to the method which he has discovered.

What we know of him and of his experiments does not inspire us with confidence in his results. That he is *unofficially* attached to the Smithsonian Institute and that he has a laboratory in Washington, which is supported by the wife of a California senator, would seem to be true. Whether or not his results represent the labor of twenty years (as he maintains they do) is not germane to the subject. He began the publication of his claims by an article in the *Monist*, which was followed by others in the *Metaphysical Magazine*. In these articles, not only was the description of methods entirely insufficient, but there was a betrayal of ignorance of the nature of the animals on which he experimented. Although he has been offered the pages of *Science* for an exposition of his experiments, Gates still seems to find a syndicate article in the Sunday edition of the great dailies the most satisfactory medium for the enunciation of his views.

During the past winter he gave a lecture before the Educational Club in Philadelphia and another before the School of Industrial Art, which he thought would be a fitting place for the establishment of a great laboratory for the genesis and growth of ganglion-cells. He visited the histological and psychological laboratories of the University of Pennsylvania, and even ran his eye over the Pepper clinical laboratory, which he thought might be a possible field for his great work. He is the Keely motorman in physiological psychology. His addresses in Philadelphia contained nothing that he had not said before; as a mission for the revelation of his methods, it was a failure, and he returned to that favorite abode of pseudo-science in which he lives, without having fulfilled any of his promises.

The newly discovered stain, of which he speaks so much, is as indicative of charlatancy as is the rabbit-foot of the negro hoodoo. He calls it iodate of rhodopsin—a substance which he himself considers mysterious in its constitution and

action, but which to us seems the essence of simplicity. It belongs to that class of which bicarbonate of mucilage is the type.

There are not wanting other stigmata of the charlatan, such as the boundless promise of regeneration, which he extends to the human race, if they will but follow his method of cell-cultivation. He believes that criminals and the children of criminals can be swayed into the paths of righteousness by filling their brains with good memory-images, and thereby allowing evil memory-images to atrophy. We shall say nothing about the apparatus that he has invented for supplying oxygen to the atmosphere of houses, which shall stimulate our intellectual faculties and improve our emotional and moral natures, except to remark that if he has been experimenting with the apparatus in his own dwelling, there is no inducement to give it a trial.

If Dr. Gates is not the humbug that these methods and claims show him to be, if he has anything in his six laboratories of biological, physiological, and psychological research, we call upon him to disclose his methods so that the cause of science may not be degraded by the manners of a public trickster.

ECHOES AND NEWS.

Bone-marrow.—Parisian restaurants are serving bone-marrow, raw, on slices of bread, for its tonic effect.

Seven at a Birth.—From Dopat, Germany, Dr. Dietrich Barfuth reports a case of seven children at one birth.

To Inject Courage.—A French doctor claims to be able to inject courage into men by means of a mixture of sea-water and phenic acid.

Beriberi at Dublin.—Another outbreak of beriberi has occurred at the Richmond Lunatic Asylum, Dublin, about twenty inmates having been attacked.

The Murphy Button.—At a recent meeting of the Chicago Gynecological Society, Dr. L. L. McArthur reported three fatal cases following the use of the Murphy Button.

Absorption of Medicines.—From experiments recently made by Bersonon, weak solutions of alcohol and sugar are preferable to gums or starches as vehicles for hastening the absorption of a drug.

Vaccination in Afghanistan.—The Amir of Afghanistan has given orders for the introduction of vaccination by calf-lymph. Smallpox destroys one-fifth of the infant population every time an epidemic appears in Cabul.

Dartmouth Medical College.—Dr. William Thayer Smith, who has been professor of physiology for a number of years, has been appointed Dean of Dartmouth Medical College, to succeed the late Carleton P. Frost. Professor Gilman P. Frost has been appointed the secretary and treasurer.

Heavy Damages for Sewer-poisoning.—For maintaining a ventilating-shaft in a chimney of a house belonging to a gentleman whose death was alleged to have been caused thereby, the King's Norton Rural District Council was mulcted in the sum of £3500 at the Birmingham Summer Assizes.

Diphtheria Antitoxin in Austria.—Out of 1100 cases of diphtheria treated with antitoxin in Austria, 970 recovered. When this remedy was employed in the first two days of the sickness, the percentage of deaths was only 6.7. Of 318 cases of preventive inoculation, only 20 were attacked by the disease, and these in a mild form.

Leprosy at Bellevue.—A German baker, who had been sleeping at the city lodging house on the Bellevue Hospital grounds, was discovered to be suffering from leprosy. He was sent to join the leper colony of two negroes and two Chinamen, on North Brother's Island. He contracted the disease in Brazil.

A Crusade Against Noises.—The Health Commissioner of Milwaukee is the initiator of a much-needed crusade. His proposition is that a certain amount of nerve-energy is required to resist noises, and when these are abnormally loud they make a large drain upon the nervous system. He therefore intends, as far as he may, to stop all unnecessary noises.

A Protozoan a Cause of Cancer.—A parasitic ameboid rhizopod, described as *Leydenia gemmipara*, has been found in the fluid taken from patients suffering from cancer of the stomach, and is believed to have a causal relation to that disease. The discovery of this new protozoan was made at Professor von Leyden's laboratory at the University Hospital, Berlin.

Two Typhoid Outbreaks.—Professor Sedgwick, of the Massachusetts Institute of Technology, has been investigating the recent outbreak of typhoid fever at Cambridge, which, at one time, threatened an epidemic. He has traced every case to the milk-supply, there being a case of typhoid in the family of the milkman. The New Haven outbreak has resulted in the drafting of an ordinance providing for the licensing of milk-vendors and an inspection of the milk and of its sources of supply.

The Plague of St. Kilda.—Between 1860 and 1865, out of 125 children born on the island of St. Kilda, 84 died within the first fourteen days of life. Unsuccessful attempts were made at various times to discover the morbid agent, and the natives finally regarded the disease as a dispensation of Providence. In 1892 a Glasgow physician recommended an iodoform dressing for the cord, with the result that there has not been a single death among the infants. The mysterious malady was tetanus neonatorum.

The Effect of High Altitudes on the Blood-corpuscles.—The blood contains a larger number of corpuscles in the mountains than on the plains, and this increase occurs at very moderate elevations. Dr. Arnould points out, in the *Revue d'Hygiene*, that diminished barometric pressure is only one of a series of influences exerted by residence at a high altitude, among which must be mentioned the purity, the dryness, and the comparative low temperature of the air of the mountains, together with the intense solar radiation in these parts.

Gould's Dictionary of Medicine.—The Educational Number of the *Lancet* commends the above book as one of the best dictionaries of its kind that it has ever seen. "It should have a place in the library of every medical man." The list of books recommended for the consideration and choice of medical students occupies several pages, but if our examination of that list has not been too cursory, there is no other English-made lexicon among them. Dr. Gould is to be congratulated upon such spontaneous and unusual commendation.

New York State Medical Society.—The Business Committee of the Medical Society of the State of New York, consisting of the following members, has been appointed: Dr. Seneca B. Powell, 12 West Fortieth street, New York, chairman; Dr. Willis G. Macdonald, 27 Eagle street, Albany; Dr. Ernest Wende, 471 Delaware avenue, Buffalo. Communications regarding papers to be presented at the next meeting of the Society, to be held in Albany, January 26–28 next, may be addressed to them or to the President. Dr. James D. Spencer, of Watertown.

A Professional Skeptic.—Dr. Schweninger, Bismarck's physician, delivered an address at the Berlin exhibition on "Medical Men and Medical Practice." He holds that medical science consists essentially in the study of one's self, in the avoidance of disease as far as is humanly possible, and, when it does come, in awaiting its departure with the greatest possible amount of resignation. He advised haste in "making use of each new remedy while it still cures." The medical man of the present day is, in his opinion, surgeon, bacteriologist, electrician, anatomist, microscopist, physicist, or physiologist, but is very little of the physician. He holds most of the new discoveries of medical science to be either useless *ab origine*, or old remedies long since tried and abandoned. The corset in woman and the silk hat in man, he declared, were the two great sources of ill health.

Libraries of Three Thousand Volumes.—Mr. G. Hedeler of Leipzig writes as follows, regarding his laborious work of listing the important private libraries of all countries, whether general, medical, or special: "The 'List of Public Libraries of all Countries,' compiled by Royal Librarian Richter, has been completed by me some time ago, and I now propose to follow it by a similar 'List of Important Private Libraries.' In order to be able to apply for particulars to the owners of private libraries it is first necessary for me to ascertain their names, and for this purpose to be favored with kind assistance from any quarter. Would you perhaps have the great goodness to note for me the names and addresses of any of your acquaintances whose libraries you may estimate as exceeding three thousand volumes, or smaller if devoted to some specialty." He deserves the help of all good Americans who have given special attention and care to the collection of medical libraries.

The English Department of Sei-i-Quai.—The *Chemist and Druggist* pokes fun at the pidgin-English of a newly appointed Japanese editor, saying: *Sei-i-Quai* is a Japanese journal which is printed both in the vernacular and in English. The editorship of the English section of the journal has recently been assumed by Dr. Kimura, who makes an announcement to that effect in the paper, and then starts off by describing Dr. Kitasato's experiments with the bacillus of the Chinese plague in this way: "The pest-bacillus is of rod-shape whose both extremities stain deeper than the middle part with anilin pigment, and has a capsule; its shape resembles the bacillus of chicken cholera. The pest-bacillus is differ from all other bacilli of infectious diseases, being inoculated by three channels—by lungs, stomach, and by hypodermic injection. In the blood of the patient in convalescent state, after decline of fever, abundant of the pest-bacilli still present; and therefore, immunity to the disease can easily be secured, by a certain method which Dr. K. is investigating at present." Dr. Kimura's assumption of the editorship of the English section of the paper reminds us of the old *Punch* joke about the amateur actor who asked a friend, "How did you like my assumption of the part of Hamlet?" "My dear fellow," came the reply, "I assure you it was the greatest piece of assumption I ever saw in my life."

Shorthand in Medicine.—Those practitioners, says the *London Lancet*, September 5th, who wish to take notes of cases or to record facts in their note books, which have been gleaned in readings or by observation, will find in shorthand a means not only to greatly economize time, but will change the laborious task of recording notes in long-hand into a work of pleasure. Its use by the student is of equal value. In the lecture theater, in the demonstration rooms, by the bedside, in the out-patients' department, and in a variety of other ways, the use of shorthand will enable him to record his experience in less time and in a more convenient manner than by the use of long-hand, and, in addition, the information will be ready to his hand when wanted. There is also another advantage, and this not a small one, which the study of phonography confers. Rightly used it has an educational value of its own. In acquiring any kind of knowledge two of the most important habits to develop are attention and method, and both are developed and strengthened by an intelligent use of phonography. Efforts are being made to induce the General Medical Council to recognize shorthand as an extra optional subject at the preliminary examination, and petitions, with that object in view, have been presented to the Council. Whether the desired object will be attained or not we strongly advise all medical students, if they can find the necessary time, to learn shorthand.

The Water Supply of Brooklyn.—The Department of City Works of Brooklyn has received from Professor A. R. Leeds, of Stevens Technological Institute, a preliminary report of his investigation as to the causation and prevention of the malodorous condition of the Ridgewood water supply. All the specimens in themselves are colorless. What has been termed their color is, properly speaking, their turbidity, and this turbidity is due to foreign suspended matter in the form of fine whitish particles, and in the form also (this latter condition being much the greater in bulk) of flocculent whitish-yellow filaments or strings. Dr. Leeds explains that the turbidity is due to two different kinds of foreign matter, the greater part settling quickly as coherent strings to the bottom of the jar, the smaller part remaining permanently suspended in the water and giving it a permanent opalescence. This opalescence is similar in character to that of the water of the driven wells used by neighboring communities on Long Island for their water supply, after this water has lost its perfectly colorless, limpid appearance on standing for some time exposed to the air. The opalescence contains nothing that is capable of identification and study under the microscope. From experiments that could not be detailed here, it appears that the principles which impart the odor are volatile amides belonging to the aromatic series of organic compounds. Those which impart the taste are amides, also, of closely related composition, but of less volatility and probably of less solubility. From these data it will be seen that the free and albuminoid ammonias are present in very small amounts in most of the samples. But the nitrates are present in enormous quantities, making the lowest ratio in which the mineral nitrogen is greater than the organic nitrogen 8, and the highest 128. In connection with the small amount of albuminoid ammonia, it should be brought prominently into view that in its normal and usual condition, the Brooklyn water contains this constituent in exceedingly minute quantities. In fact, the Brooklyn water, in its ordinary state, should be ranked as first in regard to purity of all of the water supplies of our principal cities. This encomium is made deliberately and advisedly, and is based upon a comparison of the analyses, spread over twenty-six years, of the water supplies of all the important towns in this country and Canada. But, in its present condition, it has been a peculiarly favorable habitat for the multiplication and growth of certain vegetable organisms, which, in turn, have secreted the products that have rendered the water turbid, and, in course of their decomposition, have originated the foul tastes and odors. The absolute quantity of decomposed material in the water, instead of being large, is very small, and the taste and odor are due to an excessively minute quantity of the amide substances. The objectionable odor, color, and taste of the water are due to vegetable organisms coming from the supply, which produce their objectionable effects after the water enters the distributing system. There is no danger in the use of the water at present.

The Relative Strengths of the Antidiphtheritic Serums.—The following is a portion of a letter to the *London Lancet*, by Dr. Hermann M. Biggs of New York, on the above subject; the date of the letter is August 13th and the date of the journal in which it appears is August 22:

"It has been a source of surprise to us in America that so little attention has been given to this phase of the subject in Great Britain, and to the necessity for the statement on every phial of antitoxin not simply of the dose of the serum, but of the antitoxin value of each cubic centimeter of the contents. These matters, as you have pointed out, are of preëminent importance.

"In January, 1895, on the motion of Professor T. Mitchell Prudden and myself, the New York City Health Board adopted an amendment to the Sanitary Code requiring that all preparations of diphtheria antitoxic serum exposed or offered for sale in New York City should bear labels showing the strength in antitoxin of the contents as measured by some generally recognized standard of value. The result of this action has been that nowhere in America, so far as I know, have preparations of antitoxin been sold which do not conform to this requirement, although the action of the New York Health Department in adopting regulations regarding the matter has not been generally followed. Tests of the preparations of antitoxic serum on sale are made in various parts of the United States by the different sanitary authorities to determine their conformity to the strength given on their labels, notably by the Massachusetts State Board of Health, and the New York Health Department. I have been much surprised by the low grade of the preparations used in Great Britain. As will be seen by the enclosed circular, so long ago as February, 1896, the New York Health Board discontinued the preparation and use of the 'No. 1' and 'No. 2' grades of antitoxin (Behring's standard), and added to their list three higher grades, Nos. 4, 5, and 6, containing, respectively, 200, 300, and 400 units of antitoxin (Behring's standard) in each cubic centimeter. The whole difficulty in the production of high-grade preparations of antitoxin depends upon the production of high-grade toxic solutions, and the latter were rendered easily possible by the method worked out in the New York Health Department Laboratories by Dr. Park and Dr. Williams, and published in the first number of the *Journal of Experimental Medicine*, edited by Professor William H. Welch of Johns Hopkins University, Baltimore. I am informed that the results obtained in New York have been confirmed by M. Martin of the Pasteur Institute in Paris, and that Kossell of the Institute for Infectious Diseases in Berlin, has recently published an article (which I have not seen) describing essentially the same method, not mentioning, however, the work of Dr. Park and Dr. Williams. The method used in New York has been generally followed in the United States, and high-grade preparations are everywhere to be obtained. Within the last two months another preparation, No. 7, has been added to the list, furnished by the New York Health Department. This contains 500 units in each cubic centimeter.

"It seems unnecessary to refer to the great advantages derived from the use of preparations of antitoxin in which the dose is only three or five cubic centimeters instead of ten, twenty, or thirty cubic centimeters."

CORRESPONDENCE.

SPONGE-GRAFTING IN THE ORBIT.

To the Editor of THE MEDICAL NEWS:

DEAR SIR: In your issue of June 27, 1896, in an article entitled "Sponge-grafting in the Orbit for Support of Artificial Eye," Dr. E. Oliver Belt says: "I cannot find, in all the medical literature in the library of the Surgeon-General's office any mention of sponge being used as I have suggested and tried."

In *Gaillard's Medical Journal* for May, 1889, I published an article entitled, "On the Formation of an Artificial Vitreous Body." In this article I detailed the results of a number of experiments made on rabbits by grafting sponge and cotton in the scleral cavity and sponge into the capsule of Tenon. In the recent meeting of the American Medical Association in Atlanta I presented a paper on the formation of an artificial vitreous body, which, while it did not refer to the orbit, but rather to sclera, might have called Dr. Belt's attention to this subject.

In my original article I detailed my experiment by which I planted sponge in the capsule of Tenon. The rabbit did well until the second month after the operation, when it was observed that the sponge had broken through the line of sutures and "presented a white, honeycombed appearance." "When removed, the sponge seemed to be about twice the size of the eyeball. The contents of the orbit seemed to have shrunk away from it, for the cavity seemed to be quite roomy."

In view of this unfortunate result in rabbits, I have never had the temerity to graft sponge in the orbital cavity of man. Dr. Belt states he has performed this operation in five cases "with fairly good results in all, but union of the conjunctiva has not been firm enough to prevent some of the stitches from breaking or cutting out and the wound gaping."

It would be interesting to know the condition of the socket of these eyes after a year or two have elapsed.

I do not believe the operation will stand the test of time.

I enclose the letter of Dr. Belt to me, which I publish by his permission.

Very respectfully,

J. HERBERT CLAIBORNE, M.D.

NEW YORK,
September 15, 1896.

DEAR DR. CLAIBORNE: Your letter calling my attention to your article in *Gaillard's Medical Journal* about your experiments on rabbits, in which you tried sponge-grafting in the orbit, was received a few days ago. I am very glad you wrote to me about it, as we always want the facts in regard to priority of such investigations, and I believe in giving credit to whom credit is due, although it was also original with myself, as I had never heard of sponge-grafting in the orbit being done, either on animal or man, before doing it myself, and I suppose still that I was the first to try it in the human orbit. Since receiving your letter I have found your article in *Gaillard's Medical Journal* for May, 1889. At that time the *Journal* was not indexed as well as now, and, without your name and the title of the paper, I should have had much trouble in finding it, which accounts for its being overlooked when I searched the records at the Library of the Surgeon-general's office to see if anything of the kind had been done previously. I found the experiment much more satisfactory in man than in the rabbit, which I tried it upon, and hope you will give it a trial.

Yours very truly,

E. OLIVER BELT.

WASHINGTON, D. C.,
August 31, 1896.

SPECIAL ARTICLE.

ADDRESS TO MEDICAL GRADUATES.[1]

BY CH. WARDELL STILES, A.M., PH.D.,
ZOOLOGIST U. S. BUREAU OF ANIMAL INDUSTRY; CORRESPONDENT ETRANGER DE L'ACADEMIE DE MEDECINE (PARIS).

IT may possibly seem strange to you that the Faculty has selected a zoologist to give the parting word of advice to a medical class. Fifty or even twenty-five years ago this would have been looked upon as almost an act of high treason to the medical fraternity; but in recent decades there have been great changes in medical circles, and one of the most logical has been the recognition of the fact that no sharp line can be drawn between doctors of medicine on the one hand, and doctors of science or philosophy on the other; or in other words, between men trained in applied science and those trained in abstract science. My addressing you is, therefore, fully in harmony with the changes our respective professions have recently undergone, and I cannot refrain from expressing my satisfaction at having the opportunity of speaking to you upon this particular occasion, for I feel rather as if I belonged to the Class of '96, since I entered the Georgetown Faculty the same year you became members of the student body.

I intimated that there was no dividing line between the abstract and the applied sciences. The student of medicine is looking more and more to the chemist, the physicist, the botanist, and the zoologist for aid in solving his medical problems. To a chemist you owe the most radical change in thought and practice, which your profession has ever undergone, though it may not be known to you that this man, who has done more to lessen physical suffering in man and animals than any other person of this century, was not permitted by the laws of France to practise medicine. The noted Pasteur clinic of Paris, while virtually under the direction of that ideal man of science, was not under his control in the eyes of the law, and he was obliged to engage as his assistant a doctor of medicine, who should assume the legal responsibility.

But your relations to the chemist were not due to Pasteur alone. Chemistry has taught you nearly all you know about toxicology, and much that you know about physiology; it is the basis of your therapeutics, and if we ever arrive at a solution of that riddle known as "immunity," it will be largely through our friends the chemists.

To the physicist you are indebted for the use of elec-

[1] Delivered before the graduating class of the Medical Department of Georgetown University, Washington, D. C., May, 1896.

tricity, the explanation of the normal and many of the abnormal postures of the body, the principles upon which your instruments are constructed, the explanation of certain conditions in which gravity plays a more important rôle than gravidity, and for the recent development of the X-ray, which promises so much that one is almost afraid to speculate in regard to its manifold applications.

To the botanist you are indebted for data concerning medicinal plants, as well as for very important researches in bacteriology; and it is my firm conviction that if bacteriology ever emerges from its present chaotic systematic condition, it will largely be through the direct or indirect influence of botany, for the pathologist without special training in taxonomy is no more capable of reducing the bacteria to a natural classification than is the botanist without special training in pathology capable of correctly interpreting pathological histology.

To the zoologist you owe the transformation of anatomy from a descriptive into an explanatory science. He has already solved the riddles of many of the rudimentary organs of the human body. You are no longer taught that the pineal gland of the brain is an unexplained organ, possibly the seat of the soul, but you are told that it represents a rudimentary third eye, which has been traced through a long series of animals until found developed to such an extent in certain reptiles that it is probably capable of perception of lights and shadows, while the paleontologist has here come to our aid and shown that in certain fossil reptiles this organ must have been a comparatively well-developed interparietal eye. You no longer learn a minute description of the *plica semilunaris* and then wonder what it is, for you are told that it is a third eyelid, very rudimentary in most human races, slightly better developed in the Malay, while it is well-developed and functional in birds and frogs. Your present knowledge of embryology, histology, the origin of the individual and of the race, and even the *raison d'être* of that fashionable death-trap, the vermiform appendix, you owe directly to zoology. This science has further given you certain animals, such as sponges and the Spanish fly, to be used in your practice; it has given you scientific data concerning the poisonous snakes, which cause so many deaths, and the animal parasites, with names often much longer than the organisms themselves; it has shown you means by which certain diseases may be prevented. In fact, your profession is, in reality, pathological zoology.

Permit me briefly to call your attention to two ways in which you may repay, in part, what you have borrowed from zoology. As practising physicians you will occasionally be able to collect material which will be of use to zoölogists. Too frequently the practitioner allows valuable specimens, such as young embryos, deceased monstrosities, and parasites to be cremated, buried, or thrown away, instead of saving them for scientific study. You should remember that no embryo is so young, no monstrosity or parasite so common that it is not of some use to the scientist. How often have physicians said to me: "I would have saved the specimen, had I thought it could be of use to you!" Gentlemen, let me tell you again, as I have already told you in the lecture-room, all such specimens should be saved for scientific purposes. If you meet with objection on the part of the family, which, fortunately, rarely happens among the more educated classes, you can at least make careful observations and notes upon the case. And this leads me to the first suggestions in the way of advice, *i.e.*, observe carefully, and take notes of your observations. These notes cannot be too detailed, especially at first; and probably, for a year or so after graduation, most of you will have ample time to take rather copious notes upon all you observe.

Again, in your practice you will occasionally observe peculiarities in structure, which should be placed on record, such as polydactylism, polymastism, polyorchism, pseudo-hermaphroditism, etc. In all such cases, urge your patient to submit to examination by an anatomist, and if he declines, study the case in detail, look into the family history, and ascertain whether similar peculiarities are known among the relatives. But, before you publish your observations, inform yourself upon the literature of the subject. And this leads me to several further advisory suggestions: I should advise you to keep up your studious habits and not to "rush into print."

As for rushing into print, you may not know that the first serious disease which attacks the graduate is the publishing disease. He is soon seized with an absolute conviction that he is called upon to write an article which shall contain every fact known upon a given subject. I once knew a young graduate in medicine who decided to write a monograph upon the horse, This work was to contain every fact (discovered or undiscovered) about the equine species. I met him from time to time for several years, and saw the plan of this great epoch-making equine encyclopedia gradually dwindle down until the would-be authority published an extensive review of another person's paper on the rudimentary bones in the horse's leg, attaching his own name to the review, but inadvertently omitting the name of the original author and article. Now, gentlemen, do not, I beg of you, write an epoch-making monograph the first year after you graduate. The book-writing disease is one you are all subject to. It is, however, very amenable to treatment, and this is quite simple, although somewhat heroic. It consists in reading a few books which have been written by other men suffering from the same disease. Select any subject, however small, go to the surgeon-general's library and read every article you can find upon that subject, and in most cases, I believe, you will come to the conclusion that you will not publish your monograph until you have made a few original observations in that particular line and have something to say. Do not disgrace yourself and your Alma Mater by becoming a bibliographic kleptomaniac.

In your medical writings, never use a scientific word unless you know its exact meaning and its application to the subject you are discussing. Scientific names are necessary evils. In the writings of one who knows their exact meaning, they are useful; but when used in a loose and inexact way they show poor taste, reminding the reader of Browning's lines:

> As when in certain travel I have feigned
> To be an ignoramus in our art,
> According to some preconceived design,
> And happed to hear the land's practitioners,
> Steeped in conceit sublimed by ignorance,
> Prattle fantastically on disease,
> Its cause and cure—and I must hold my peace!

in the letter of "The Arab Physician."

Speaking for my own specialty, I regret to say that fully one-third of the articles on medical zoölogy which I have found in the medical journals are unintelligible to the specialist—whatever may be the ideas they convey to the practitioner—largely because of the reckless use of technical terms.

It is always a good plan to submit your articles to a specialist or to your colleagues for criticism before you send them to press. Another good plan is to place your manuscript—especially if it is your first effort—under lock and key, from sixty days to sixty years (so that the ideas may not escape), the time of confinement varying directly in proportion to the importance you attach to the views you advance. If you feel convinced that your ideas are destined to revolutionize modern medical thought, sixty years is rather a short period of imprisonment for your manuscript; while if, in your early articles, you "decide" that "no such disease exists as hydrophobia," that "the claims which the advanced members of the profession make for antitoxin are absurd," that "Harvey did not use vivisection in studying the circulation of the blood," or if you suddenly come to the conclusion that "Koch's discovery of tuberclin is useless" and that "no good has ever come from animal experimentation," then imprisonment for life, or even capital punishment, would not be too severe treatment for your manuscript, and possibly for the author also.

Be careful about your language in writing. It is always better to say that you believe an author is "in error" (let it be Pasteur, Koch, Claude Bernard, Laboulbène, Blanchard, Welch, Sternberg, or Salmon) than to say that his "statement is false." In either case the reader will simply take your assertion as meaning that there is a slight difference of opinion upon the subject in hand, and the more modestly and delicately you express your own view on the subject, the more weight your article will have with those who read it.

So much for your opportunities to aid zoology. I now wish to make a suggestion concerning "bread-pills" from the standpoint of a non-practitioner and occasional patient. It is generally supposed by young graduates that it is always best to look wise and administer "bread-pills" in case you are in doubt as to diagnosis and treatment. To make this rule absolute is, I believe, a serious mistake. I maintain that bread-pills are perfectly justifiable, but that they have their place. In many cases they may work upon the imagination and thus lead to speedy recovery, while there is a chance that a more heroic treatment might result otherwise. There are some people, however, who believe that an honest confession of ignorance and a willingness to study the case are occasionally better than a show of knowlege; and if any of you ever enter abstract science, this is the first lesson you will be obliged to learn. I would therefore respectfully suggest, from the standpoint of certain patients—possibly the minority—that you study human nature and take into account the temperament, as well as the temperature of your patient; that you keep a large supply of bread-pills on hand; that you give them freely, though not free, to all patients who need them, but give to yourself, at the same time, assurance and vows of faithful study of the case. You should educate your patients, as well as yourselves, to the truth that it is often more important to decide what to proscribe than what to prescribe.

What I have said thus far applies to the entire class, and now I have a closing word of advice to give to about five or ten per cent. of the class, *i.e.*, experiment. Advance in medicine is suggested by observation; it is made by experimentation. All practitioners are capable of observing, some are capable of experimenting. Certain conditions, however, must be complied with before you essay experimentation. I refer, first of all, to a thorough knowledge of the literature upon the subject you wish to investigate, so that you may know the successes and failures of former investigators in that particular line. In the next place, perform your first experiments under the direction of some experienced investigator; and finally, and most important of all, hold fast to the view defended by the humane profession you have just entered, *i.e.*, that a human life is worth more than the lives of all the stray dogs within the field of your observation. Establish results by animal experimentation before you try theories on human beings, and, if a short-sighted, sentimental, and medieval policy at the end of the nineteenth century results in legislation which will seriously hamper or prevent such experimentation in one part of a civilized country, move to another place, rather than risk human lives in experiments which can be performed elsewhere upon the lower animals.

Finally, gentlemen, on behalf of the faculty I desire to thank you for your faithful work these past four years and to wish you all the success possible in your practice. While in practice, do not lose sight of the fact that the principle of the "survival of the fittest" holds in the medical profession, as well as in the "origin of species." If you wish to survive as one of the fittest, it must be by an honorable and professional "struggle for existence." In the time of your successes and reverses do not, however, forget your Alma Mater, for she will always have for you a word of welcome, of comfort, and of praise.

SOCIETY PROCEEDINGS.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

Twentieth Annual Meeting, held at Hot Springs, Va., September 8, 1896.

DR. A. R. ROBINSON of New York, the President of the Association, delivered the annual address. After welcoming the members he announced the death, since the last meeting, of one of the Society's oldest, ablest, most active members, Dr. Edward Wigglesworth of Boston,

and spoke of his genial and courteous bearing, of which the members had so distinct a recollection. To some he was a well-proven friend, and to all an honored and admired colleague, whose absence from the Society's meetings will be sadly felt. The question of the rightful territory of the dermatologist was then discussed, and the effort was made to show to the general profession that cutaneous diseases are much more numerous and complicated than is usually supposed, while some are dangerous to the subjects thus afflicted. It would seem, therefore, that a more prominent position should be accorded dermatology in the college curricula.

In discussing the President's address, Dr. WHITE said that for several years Harvard University has required study in dermatology, both theoretically and practically. The examination is rigorous, and at times excludes from the degree.

DR. DUHRING thought notice should be taken of the advances which had been made in a few of the universities. In the University of Pennsylvania the student is marked on the same basis as in anatomy and surgery.

DR. JACKSON said that for several years Columbia College students had been required to pass an examination in diseases of the skin, and after the present year would be required to take a course of twelve lessons yearly. Dr. Morrow said that six years ago instruction in dermatology was not compulsory in any college in this country. The statements of the speakers were, therefore, of much satisfaction.

G. T. JACKSON, M.D., of New York, presented a paper entitled

PAGET'S DISEASE OF THE NIPPLE,

and described a case of a woman, fifty-two years of age. The disease developed from what seemed at first to be a simple dermatitis into a clear case of Paget's disease, within fifteen months. No cause was discoverable. The breast was amputated by Dr. B. F. Curtis, and the patient made a good recovery. After nine months the patient was seen again, and showed no symptom of return of the disease in any way. Histological examination of the removed gland showed the presence of a non-cancerous tumor in the breast, which the pathologist, Dr. Ely, thought might have been the origin of the disease of the nipple. On the second visit of the patient it was found that she had a tumor in the remaining breast. Dr. Jackson urged the advisability of amputation of the breast in all cases of Paget's disease as soon as a positive diagnosis was arrived at. He did so on account of the exceeding rebelliousness of the disease to treatment and its proneness to the development of cancer.

DR. FORDYCE opened the discussion by differing from the views upon the pathology as given in the report of the pathologist who had studied Dr. Jackson's case. It would seem that a fibrous growth existed in the breast before the areolar disease showed itself. We are led to believe that the disease begins in the epidermic cells, results in a peculiar degeneration in the protoplasm, and extends along the galactiferous ducts.

DR. BOWEN also disagreed with the pathologist's views that the skin lesions were secondary if this is to be regarded as a true example of Paget's disease.

DR. DUHRING said the skin affection was here practically identical with eczema in the early stage. If seen some years later an entirely different diagnosis might be made, the eczema-like element having disappeared or become overshadowed by the epitheliomatous development. He had suggested the designation *Eczematoid epithelioma* since almost all cases eventually became epitheliomatous.

DR. WHITE did not think the case described could be looked upon as Paget's disease, either clinically or pathologically. Excision of the breast should always be advised in Paget's disease, if improvement does not take place promptly from the use of ordinary remedies.

DR. ROBINSON thought there might here have been a fibroma with nipple eczema as an accidental combination. He did not see that any connection had been shown between the two processes.

L. A. DUHRING, M.D., of Philadelphia, presented

A PATHOLOGICAL AND CLINICAL CLASSIFICATION OF THE DISEASES OF THE SKIN.

A printed table showed the diseases arranged in nine groups. The classes made were: (1) Anemias; (2) congestions; (3) inflammations; (4) hemorrhages; (5) neuroses; (6) hypertrophies; (7) atrophies; (8) new growths; (9) diseases of the appendages of the skin, divided into disease of (*a*) the sweat glands; (*b*) sebaceous glands; (*c*) hair follicles, and (*d*) nails. The structures composing the appendages of the skin, especially the follicles, hair, and nails, are subjected to such varied forms of disease that it is found eminently proper and useful to bring them together. Differing from the writer's previous work in the same direction there is an omission of all etiology in the make up of this classification which is based rather on pathology, histopathology, and anatomy.

DR. WHITE did not see how we could ignore the etiological element in a system of classification. It seemed to him more important than an anatomical classification. The position accorded various diseases was criticized, as was the entering of the same disease under two different classes, which was apt to confuse the student.

DR. MORROW thought all admitted that an etiological would be the ideal classification, and it seemed a step backward to ignore etiology entirely. He regarded the task of making a satisfactory classification impossible.

DR. ALLEN thought it a reproach to American dermatology, and to the Association, that we had to rely, in our work, upon an alphabetical list of skin diseases. The argument that because a satisfactory classification could not now be made none should be attempted was not sound. There probably never would come a time when views regarding the nature of diseases would not be in a state of transition. He hoped Dr. Duhring would persist in his efforts to give as good a classification as is now possible. Dr. Robinson said that Dr. Duhring's original classification was the more useful. The attempt to arrange the diseases in this manner was correct, and as good a basis as was at our disposal at the present time.

J. A. FORDYCE, M.D., of New York, reported a case of

PECULIAR AFFECTION OF THE MUCOUS MEMBRANE OF THE LIPS AND MOUTH,

in which the mucous membrane of the lips and inner sides of the cheeks was the seat of numerous, closely aggregated milium-like bodies.

The affection began two years previously and had progressed in a symmetrical manner since that time.

On superficial examination, the normal vermilion-color of the affected region seemed to have been replaced by a light yellow tint. When the parts are put on the stretch the individual lesions composing the patch were plainly visible.

A portion of tissue from the oral cavity, excised for microscopic examination, showed a degenerative process in the protoplasm of the epithelial cells. The muciparous glands were not involved.

A colored drawing and several photomicrographs were shown in connection with the report.

DR. HARDAWAY of St. Louis, presented the photographs of a case of

ARSENICAL PIGMENTATION,

Distributed over the anterior and lateral aspects of the trunk and extremities. In another case the lower portion of the thighs, and the anterior of the trunk were exempt.

DR. ALLEN of New York, presented a new comedo extractor, with pustule lance attached. The advantage being that one instrument, instead of several, was sufficient for the various steps in acne work. By a forceps-like device, lateral pressure and a squeezing or massage of the skin could be carried out.

J. MCF. WINFIELD, M.D., of Brooklyn, read the next paper, entitled

A FAVUS-LIKE ERUPTION OF THE ORAL MUCOUS MEMBRANE, CAUSED BY THE ASPERGILLUS NIGRECEUS.

The patient was a woman twenty-seven years of age, who had never had any serious illness. Two weeks before she had noticed "a small ulcer" in the middle line of the roof of the mouth. It occasioned no pain or discomfort only when irritated by some hard substance in eating. The patch slowly increased and another formed in front of it, and others subsequently developed. An antisyphilitic course had shown no good results. Antiseptics had also been applied. Favus was suspected. When first seen by the reporter there was an edematous, lumpy patch on the left side of the mouth, from the incisors to within an inch of the soft palate, with outlying smaller patches. A firmly attached dirty-yellow deposit covered the areas. Parts were grayish brown, the surrounding tissues were edematous. The picture suggested favus, or a beginning tuberculosis. The microscope disclosed a fungus differing from the achorion. The fibers showed no tendency toward fission. The manner of punctifying shows that the fungus did not belong to the oïdium but to the ascomycetous genus. It grew rapidly in cultures. Treatment directed to the prevention of the plant from bearing fruit, by applying peroxid of hydrogen in strong ethereal solution, proved effective. The case, so far as the writer could discover, is unique. The cause was supposed to be eating moldy cheese, for which the patient had a decided liking.

Referring to the differences in culture, the speaker said thrush gives a thin film, the trichophyton a cottony growth, and the *Aspergillus nigreceus* a grayish-brown mold.

DR. FORDYCE thought the case unique as well as interesting.

DR. DUHRING did not remember to have seen such a case. He asked if the membrane was adherent or easily removed.

DR. WINFIELD replied that considerable force was required, and caused slight bleeding.

In the morning session of the second day a general discussion was opened by J. C. WHITE, M.D., of Boston, upon the subject

WHAT EFFECT DO DIET AND ALCOHOL HAVE UPON THE CAUSATION AND COURSE OF THE ECZEMATOUS AFFECTIONS AND PSORIASIS?

The speaker said that at the International Congress, from which he had just returned, this important subject had scarcely been touched upon, one paper having been read upon the influence of vegetable diet in psoriasis. Observations have been so inexact that conclusions cannot be drawn from them. It is well known that there are disturbances of the skin which result from errors in diet, but they are, for the most part, fugitive and idiosyncratic. Food containing toxic properties is well illustrated in scorbutus and pellagra. In infancy, under the simplest and most uniform diet known, eczemas are prevalent and extremely obstinate. Eczema is occasionally provoked and kept up by acid fruits, but no specific articles of food were recognized as bearing upon the production of the disease. In eczema, the diet should be the same as in all ordinary inflammations. He does not recognize the influence of any so-called diathesis, and hence would deny the efficacy of systems of diet in eczema based upon an assumed curative effect in such imaginary diatheses.

(To be continued.)

OFFICIAL LIST OF THE CHANGES OF STATION AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE SIXTEEN DAYS ENDED AUGUST 31, 1896.

PERRY, T. B., Passed Assistant Surgeon. Detailed to represent Service at meeting of American Public Health Association; August 24, 1896.

VAUGHAN, G. T., Passed Assistant Surgeon. Detailed for duty in connection with Immigration Service at Philadelphia, Pa.; August 25, 1896.

COBB, J. O., Passed Assistant Surgeon. When relieved from duty at Cincinnati, Ohio, to proceed to New York for duty; August 25, 1896.

STIMPSON, W. G., Passed Assistant Surgeon. Relieved from command of Service at Port Townsend, Wash., on arrival of Passed Assistant Surgeon S. D. Brooks; August 25, 1896.

SPRAGUE, E. K., Assistant Surgeon. When relieved from duty at New York to rejoin his station at Boston, Mass.; August 27, 1896.

CUMMING, H. S., Assistant Surgeon. When relieved from duty at Norfolk, Va., to proceed to Evansville, Ind., for temporary duty; August 25, 1896.

GREENE, J. B., Assistant Surgeon. To proceed from Baltimore, Md., to Cleveland, Ohio, for temporary duty; upon completion of which to rejoin station; August 25, 1896.